



January 29, 2019

Ms. Megan Schuette  
On-Scene Coordinator  
U.S. Environmental Protection Agency  
8600 NE Underground Drive, Pillar 253  
Kansas City, Missouri 64161

**Subject: Removal Action Report  
Community Laundromat Site, Ava, Missouri  
EPA Region 7, START Contract No. EP-S7-13-06, Task Order No. 0200  
Task Monitor: Megan Schuette, On-Scene Coordinator**

Dear Ms. Schuette:

Tetra Tech, Inc. is submitting the attached Removal Action Report regarding the Community Laundromat site in Ava, Missouri. If you have any questions or comments, please contact the Project Manager at (417) 257-9977.

Sincerely,

A handwritten signature in black ink, appearing to read 'Handley'.

Michelle Handley  
START Project Manager

A handwritten signature in black ink, appearing to read 'Ted Faile'.

Ted Faile, PG, CHMM  
START Program Manager

Enclosures

cc: Debra Dorsey, START Project Officer (cover letter only)

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**REMOVAL ACTION REPORT**

**REGARDING THE**

**COMMUNITY LAUNDROMAT SITE**

**AVA, MISSOURI**

**Superfund Technical Assessment and Response Team (START)**  
**Contract No. EP-S7-13-06, Task Order 0200**

Prepared For:

U.S. Environmental Protection Agency  
Region 7  
Superfund Division  
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January 29, 2019

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## **1.0 INTRODUCTION**

The Tetra Tech, Inc. (Tetra Tech) Superfund Technical Assessment and Response Team (START) was tasked by the U.S. Environmental Protection Agency (EPA) Region 7 Superfund Division to assist with a fund-lead removal action (RA) at the Community Laundromat site in Ava, Missouri (the site). EPA, the Missouri Department of Natural Resources (MDNR), and multiple potentially responsible parties (PRP) had conducted prior investigations associated with the nearby 12th Avenue Solvent site, and had identified numerous volatile organic compounds (VOC), including tetrachloroethene (PCE), in groundwater beneath and downgradient of a light industrial park (Tetra Tech EM Inc. 2001). The site is within this industrial park and is one of several potential sources of the groundwater contamination. Because no source of PCE other than the site has been identified to date, PCE contamination downgradient of the site is likely at least partially attributable to former dry cleaning operations at the site. Ongoing groundwater monitoring has occurred approximately 750 feet west-southwest and downgradient of the site coincident with treatment of a wetland area associated with the 12<sup>th</sup> Avenue Solvent site. Ownership of that treatment system was transferred to EPA in late 2017 for continued monitoring.

Elements of this task included:

- Sampling of the groundwater treatment system
- Real-time photoionization detector (PID) screening of excavated soil
- Documentation of removal activities.

Purposes of this RA were to: (1) monitor ongoing groundwater treatment, and (2) eliminate the volatile organic compounds (VOC) contamination that was originating from the Community Laundromat site and impacting groundwater entering the unnamed tributary of Prairie Creek (via discharge from the groundwater treatment system and/or via an intermittent groundwater seep approximately 750 feet west-southwest of the site).

The EPA Region 7 task monitor was On-scene Coordinator (OSC) Megan Schuette, and the START Project Manager (PM) was Michelle Handley.

## **2.0 SITE BACKGROUND INFORMATION**

This section discusses characteristics of the site.

### **2.1 SITE LOCATION AND DESCRIPTION**

The site is at 306 Northwest 12th Avenue in the southeast quarter of the northeast quarter of the northwest quarter of Section 11, Township 26 North, Range 16 West in Douglas County, Missouri (see Appendix A, Figure 1). Geographic coordinates at the site are 36.96147 degrees north latitude (36° 57' 41.3") and 92.66235 degrees west longitude (92° 39' 44.4"). The site is in a commercial/residential area in Ava, Missouri. Ava has a population of 2,896 and lies approximately 50 miles southeast of Springfield, Missouri (Google 2018).

The site includes an area that hosted a laundromat building (demolished by the property owner around 2007), and currently includes an adjacent building housing Action Realty and the Missouri Department of Motor Vehicles License Office. The remainder of the property is an unpaved parking lot. Land use in the area is a mix of commercial, light industrial, agricultural, and residential properties (see Appendix A, Figure 2).

### **2.2 GEOLOGY, HYDROLOGY, AND HYDROGEOLOGY**

Dominant soils in the area consist of Mano and Ocie soils. Slopes range from 1 to 8 percent (U.S. Department of Agriculture (USDA) 2005). The Mano series consists of very deep, moderately well-drained soils formed on hills in colluvial sediments from cherty limestone, and underlying residuum from cherty dolomite (USDA 2004). The upper 33 inches of this soil consists of gravelly silt loam with clay beneath, extending to approximately 80 inches below ground surface (bgs) (USDA 2005). The Ocie series consists of deep, moderately well-drained, slowly permeable soils formed in hillslope sediments, and the underlying residuum from cherty dolomite or limestone with thin interbedded sandstone (USDA 2003). The upper 24 inches of this soil consists of very gravelly silt loam with clay beneath, extending to approximately 56 inches bgs (USDA 2005).

Additionally, general soil characteristics can be inferred from the area's bedrock and from soil boring logs recorded during a pre-Comprehensive Environmental Response, Compensation, and Liability Information System (CERCLIS) site screening assessment (SSA) at the site, and during other investigations associated with the nearby 12th Avenue Solvent site in Ava. Reddish-brown to yellowish-brown cherty clays, alternating with red sandy loams grading into sandy clays, are typical soils formed from the Jefferson City

Formation underlying the site. At most locations, soils are thick and well drained (Stohr, St. Ivany, and Williams 1981). Soil boring logs from the pre-CERCLIS field investigation confirmed this lithology. Depth to bedrock at the site may increase from northeast to southwest, in the direction of surface drainage and groundwater flow. Borings at the southern portion of the site encountered bedrock refusal at about 22 feet bgs, whereas a boring at the northern portion of the site encountered refusal at about 8 feet bgs. Well logs from off-site monitoring wells installed during 12th Avenue Solvent site investigations confirmed that the overburden is approximately 10 to 15 feet thick immediately west and north of the site. Proceeding southwest from the site, overburden thickness increases to as much as 20 feet before pinching out at a tributary to Prairie Creek, where bedrock is visible along the streambed (Environmental Strategies Corporation [ESC] 2002). A variable bedrock surface is typical within this area, given the karst geology of the region (Emmett and others 1978).

Local well logs indicate that bedrock underlying the site consists of Ordovician and Cambrian age dolomites and sandstones extending from approximately 20 to more than 1,000 feet bgs. The uppermost bedrock formation is the Jefferson City Dolomite, which extends to approximately 400 feet bgs (MDNR 2001a). This formation is the base of the Ozark confining unit, which overlies the Ozark aquifer. However, the Jefferson City Dolomite does produce some water, and is considered by itself to be a leaking confining unit (U.S. Geological Survey [USGS] 1989). Vertical migration within the Jefferson City Dolomite is limited primarily to the upper 5 feet of the unit, where weathering has produced significant solution voids. Within the unweathered dolomite, flow becomes primarily horizontal, and is restricted mostly to bedding planes and discontinuous vertical fractures (MDNR 2001b). Beneath the Jefferson City Dolomite, the Roubidoux Formation, Gasconade Dolomite, and Eminence Dolomite combine to form a single hydrologic unit (Ozark aquifer) to depth of more than 1,000 feet bgs (MDNR 2001a). Karst features are possible in the area (Emmett and others 1978). Direction of shallow groundwater flow is likely to follow the site's topography (sloping west to southwest), with depth to groundwater variable but generally approximately 15 to 17 feet bgs at the site.

Several water supply wells are within a 4-mile radius of the site, including three active municipal wells within 0.75 mile. Municipal Well No. 4 is about 400 feet (0.08 mile) north of the site and is the closest known water supply well. Ava Well No. 6 is 0.36 mile northeast and Ava Well No. 5 is 0.6 mile southeast of the site. These three wells serve a reported 3,082 people according to the EPA Safe Drinking Water Information System.

Drainage at the site infiltrates surface soil or flows overland following the topographic gradient, to the south-southwest. The 2-year, 24-hour rainfall for the area is between 3.5 and 4 inches, and Ava receives on average 44.33 inches of precipitation (usclimatedata.com 2018).

The site is at an elevation of about 1,280 feet above mean sea level, and slopes to the west and southwest (USGS 1982). Overland flow follows a ditch on the north side of Northwest 12<sup>th</sup> Avenue. The site lies outside of the 500-year floodplain of Prairie Creek. A contaminated “wetland area” that drains into an unnamed tributary of Prairie Creek has not been mapped by the U.S. Fish and Wildlife Service National Wetlands Inventory, and the tributary to Prairie Creek is depicted as intermittent on the USGS topographic map. The tributary passes beneath Northwest 12th Avenue and flows south-southwest for about 2 miles, where it joins the headwaters of Prairie Creek just south of the City of Ava’s sewage disposal pond. Prairie Creek flows southwest for approximately 6 miles, where it enters Cowskin Creek. The confluence of Prairie Creek and Cowskin Creek occurs shortly (0.5 mile) before Cowskin Creek’s confluence with Beaver Creek. Beaver Creek is the largest surface water body within 15 miles of the site. No drinking water intakes exist on any of these streams (Camp Dresser & McKee Federal Programs Corporation [CDM] 1993).

The unnamed tributary and Prairie Creek exhibit both gaining and losing conditions over various intervals, depending on the nature of the underlying bedrock. (A “losing stream” loses 30 percent or more of its flow into underlying bedrock.) From Northwest 12<sup>th</sup> Avenue southward, to a point approximately 100 feet north of Southwest 10<sup>th</sup> Avenue, the unnamed tributary appears to be a gaining stream. Over the next 200 feet, water is present in the form of intermittent pools as the creek crosses a stratigraphic contact between the Jefferson City Dolomite (upstream side) and the more permeable Roubidoux Formation (downstream side). For the next 0.25 mile, the tributary is completely dry and considered a losing stream. Gaining conditions resume about 300 feet south of Southwest 4<sup>th</sup> Avenue, where the tributary crosses a fault, and flow resumes over the Jefferson City Dolomite. Gaining conditions continue to the headwaters of Prairie Creek. However, Prairie Creek crosses a second fault about 0.75 mile downstream from the first fault, and losing conditions return as flow once again occurs over the Roubidoux Formation. No flow occurs within Prairie Creek beyond the northwest quarter of the northwest quarter of the southeast quarter of Section 16, Township 26 North, Range 16 West (MDNR 2001b).

## **2.3 OPERATIONAL HISTORY AND WASTE CHARACTERISTICS**

This section describes the operational history at and near the site and discusses waste characteristics.

### **2.3.1 Operational History**

As of 2001, when the facility was first identified as a potential source of groundwater contamination, the laundromat was providing only coin-operated washers and dryers; however, according to the former facility operator, Mr. Joe Banta of Ava, the facility had provided dry cleaning services for “a few years” during the late 1980s and early 1990s. Mr. Banta also confirmed that the facility had used PCE during the years when dry cleaning services were offered, and that a “normal amount” of spillage may have occurred during that time. Mr. Banta had opened the laundromat in 1986, and operations ceased in 2004. The current property owner is Mr. John Sutton, also of Ava. The site includes an area previously occupied by a laundromat building (demolished by the property owner around 2007) and an adjacent building that currently houses the Ava License Office and Action Realty. The remainder of the property is an unpaved parking lot.

### **2.3.2 Waste Characteristics**

Previous investigations at the site have identified PCE as the primary contaminant of concern, detected at concentrations exceeding health-based benchmarks.

#### **PCE**

PCE is a chlorinated solvent with an ether-like odor, typically used in dry cleaning operations and as a degreaser for metal parts (Agency for Toxic Substances and Disease Registry [ATSDR] 2014). PCE is denser than water and when released to the environment tends to be at greater depths with increasing distance from the source area. PCE is considered a likely human carcinogen by EPA (ATSDR 2014).

PCE was introduced as a dry cleaning solvent in 1934, and by 1948 had replaced carbon tetrachloride as the major chlorinated dry cleaning solvent used in the United States (petroleum solvents still dominated overall). By 1962, dry cleaning operations accounted for 90 percent of PCE used in the United States. At one time, PCE had been mixed with grain protectants and certain liquid grain fumigants, but this practice had been banned by 1980 (Meister Publishing Company [Meister] 1980). PCE degrades to trichloroethene (TCE).

## **TCE**

TCE is a nonflammable, colorless liquid with a somewhat sweet odor and a sweet, burning taste (ATSDR 2003). It is used mainly as a solvent to remove grease from metal parts, and is an ingredient in adhesives, paint removers, and spot removers. TCE is denser than water and when released to the environment is typically found at greater depths with increased time or distance from the source area. TCE is reasonably anticipated to be a human carcinogen. Drinking small amounts of TCE for long periods may cause liver and kidney damage, impair immune system function, and impair fetal development in pregnant women (ATSDR 2003). The *cis* and *trans* isomers of 1,2-dichloroethene (DCE) are common degradation products from TCE.

## **2.4 PREVIOUS INVESTIGATIONS**

The following section describes activities during previous investigations at the site and sampling results from those investigations.

### **2.4.1 Pre-CERCLIS Site Screening Assessment**

EPA conducted a pre-CERCLIS field investigation on July 9 and 10, 2001. EPA and Tetra Tech START installed five soil borings (SB-1 through SB-5) across the site using a track-mounted Geoprobe®. Continuous cores were collected at each boring location by use of Geoprobe's Macro-Core® sampling system. Cores were collected from ground surface to refusal (assumed bedrock surface).

Soil samples were collected within two depth intervals at SB-1 through SB-4. One sample was collected within the 0- to 2-foot bgs interval at each of these borings. A deeper sample was collected at or just above first occurrence of groundwater. At SB-5, a sample was collected within the 0- to 2-foot bgs interval only, due to refusal at a relatively shallow depth of 8 feet bgs.

All soil samples were analyzed for VOCs, semivolatile organic compounds (SVOC), and metals. Only VOC contamination is discussed here, as concentrations of other contaminants were relatively insignificant; complete sample results are in the pre-CERCLIS report (Tetra Tech EM Inc. 2001).

PCE was found at 19 micrograms per kilogram ( $\mu\text{g/kg}$ ) in a soil sample collected at SB-1 within 17 to 18 feet bgs (very near the water table). PCE was also found at 570  $\mu\text{g/kg}$  in a soil sample collected at SB-4 within 13 to 14 feet bgs.



Groundwater samples were collected at SB-1 and SB-2 by use of Geoprobe's Screen Point 15® sampling system. The static water level at SB-1 was about 16.7 feet bgs. The static water level at SB-2 was approximately 17.0 feet bgs. Saturated conditions were noted during soil sampling at SB-4 within a depth interval of about 12.5 to 14 feet bgs. However, an attempt to collect a groundwater sample at SB-4 was unsuccessful, presumably because the saturated interval was too narrow, a borehole skin precluded infiltration of water through the well screen, or the screen became clogged.

PCE was found at 1,300 micrograms per liter ( $\mu\text{g/L}$ ) in the groundwater sample collected at SB-1 (EPACLGW1) within 16 to 18 feet bgs. This sample also contained 1,1,1-trichloroethane (TCA) at 12  $\mu\text{g/L}$ . A PCE concentration of 6  $\mu\text{g/L}$  was reported in the groundwater sample collected at SB-2 (EPACLGW2) within approximately 17 to 21 feet bgs.

#### **2.4.2 2002 MDNR Removal Site Evaluation**

In February 2002, MDNR conducted a Removal Site Evaluation (RSE) at the site. During this sampling event, 28 soil samples were collected from 19 borings (CL-01 through CL-19). PCE was reported in 10 of the samples at six boring locations. Reported concentrations ranged from 13  $\mu\text{g/kg}$  in CL-08 (16 feet bgs), to 12,400  $\mu\text{g/kg}$  in CL-10 (19 feet bgs) (MDNR 2002).

MDNR also installed four temporary wells using direct-push technology (DPT) equipment. Groundwater samples collected from these wells (MW-CI-01 through MW-CI-04) contained PCE at concentrations ranging from 1.7  $\mu\text{g/L}$  in MW-CI-04 to 21,400  $\mu\text{g/L}$  in MW-CI-01 (MDNR 2002). Groundwater samples were collected immediately below the water table (i.e., above bedrock) at all DPT sampling locations.

During the RSE, MDNR also sampled a spring about 1,500 feet southwest (downgradient) of the site. The spring had been sampled previously by MDNR in May 2001. The 2001 sample had contained 35.1  $\mu\text{g/L}$  of PCE (MDNR 2002), and the sample collected during the 2002 RSE contained a similar PCE concentration of 37.3  $\mu\text{g/L}$  (MDNR 2002).

#### **2.4.3 2007 EPA Removal Site Evaluation**

Following demolition of the laundromat building, soil and concrete sampling occurred in April 2007 to determine whether PCE contamination was present in soil beneath the slab-on-grade and basement floor of the former building (these had been left intact during demolition). Intent was also to further delineate the extent of PCE contamination in soil beyond the footprint of the former laundromat building.

April 2007 activities also included collection of a water sample from a sump at the southeast corner of the basement.

Results of soil sampling indicated PCE levels above the Missouri Risk-Based Corrective Action (MRBCA) soil threshold of 141 µg/kg (for protection of domestic groundwater use) beneath the central portion of the basement floor, and beneath the slab-on-grade immediately north of the basement. A low concentration of PCE was reported in a concrete sample collected at the central portion of the basement floor, indicating that a nearby release may have occurred inside the former dry cleaning facility. High concentrations of PCE detected in soil beneath the slab-on-grade (up to 5,400 µg/kg) indicated a release also may have occurred in that area. PCE concentrations beneath the basement floor were as high as 400 µg/kg. PCE levels detected in soil samples collected west of the former building were consistent with levels reported in samples collected within that area during previous investigations. No PCE was detected in the sump water sample, indicating that the sump probably had contained rainwater (Tetra Tech EM Inc. 2007).

Moreover, as part of an Evaluation of Removal Action Alternatives, the suspected source area was delineated in 2007 based on PCE concentrations detected in soil that exceeded the state cleanup level at the time (Tetra Tech EM Inc. 2007). Proposed excavation areas encompassed approximately 4,800 square feet (ft<sup>2</sup>). Soils were to be excavated to refusal which, for the purpose of estimating volume, was assumed to average 15 feet bgs across the site. Based on this assumption, total volume of soil to be removed would be approximately 2,670 bank (undisturbed) cubic yards (byd<sup>3</sup>) of soil. No subsurface liner existed beneath the source area, and contaminants in soil were not considered contained.

#### **2.4.4 2016 EPA Removal Site Evaluation**

In 2016, an RSE further delineated extents of PCE contamination in soil and groundwater on site—an objective partially accomplished during a Preliminary Assessment (PA) completed under the START 2 contract in July 2001, an initial RSE by MDNR in February 2002, and an RSE completed under the START 3 contract in 2007. Additional objectives were to assess potential release of contamination into surface water, and to assess potential impacts on indoor air from possible vapor intrusion (VI).

Analytical results from subsurface soil sampling at the site indicated detections of PCE at all five soil boring locations, ranging from 74 to 809 µg/kg. Except in a sample collected at SB-1, all detections exceeded the MRBCA threshold of 141 µg/kg for protection of domestic groundwater use.

Analytical results from groundwater sampling at three on-site monitoring wells indicated presence of PCE in all samples. PCE concentrations ranged from 58 to 2,400 micrograms per liter (µg/L), exceeding the EPA Maximum Contaminant Level (MCL) of 5 µg/L in all samples. Also, 1,2-dichlorobenzene and TCE were detected in one of the wells at levels below their respective EPA MCLs.

Of the two surface water samples collected, only one sample (from location SW-1, approximately 1/3 mile southwest of the site) contained a detected concentration of PCE. In that sample, PCE was reported at 2.3 µg/L, exceeding the MDNR water quality standard for drinking water supply of 0.8 µg/L, but below the MDNR water quality standard for human health protection (fish consumption) of 8.85 µg/L. No other VOC was detected in the surface water samples.

Several VOCs were detected in outdoor ambient air and indoor air samples; however, with only a few exceptions, all indoor detections were below EPA Regional Screening Levels (RSL). The two residential air samples contained 1,1,2-TCA concentrations above the EPA RSL of 0.21 micrograms per cubic meter (µg/m<sup>3</sup>), and both indoor air samples from the on-site building contained naphthalene at concentrations exceeding the EPA RSL of 13 µg/m<sup>3</sup>.

Several VOCs were detected in sub-slab vapor samples. By use of EPA's Vapor Intrusion Screening Level (VISL) calculator, an action level for each detected analyte was determined; no sub-slab vapor result exceeded any calculated action level (Tetra Tech 2017).

#### **2.4.5 2018 Site Inspection**

In 2018, a Site Inspection (SI) evaluated additional VI data in accordance with "Addition of a Subsurface Intrusion Component to the Hazard Ranking System, Final Rule" (EPA 2017). The SI report included a summary of the relative threat from actual or potential releases of hazardous substances at the site, by application of the EPA Hazard Ranking System (HRS), based on information obtained during the SI.

Tetra Tech also prepared a full HRS scoring memorandum. The site received an overall site score of 22.36 based on the subsurface intrusion component of the soil exposure pathway, and the groundwater migration pathway. This was likely a worst-case score and relied on the assumption that TCE (a hazardous substance) is attributable to the site. Based on then current data, the site did not score high enough to be considered a candidate for inclusion on the National Priorities List (Tetra Tech 2018).

### **3.0 SAMPLING ACTIVITIES**

Purposes of groundwater and surface water sampling were to (1) determine level of VOC contamination in the influent entering the treatment system, (2) monitor effluent as it left the treatment system to evaluate treatment efficacy , and (3) assess possibility that contamination originating from the Community Laundromat site was impacting groundwater that enters the unnamed tributary of Prairie Creek (via discharge from the groundwater treatment system and/or via an intermittent groundwater seep identified north of 12<sup>th</sup> Avenue). START conducted one round of sampling on March 13, 2018, and another round of sampling on June 26, 2018. Copies of chain-of-custody forms and laboratory reports are in Appendix C, and copies of field sheets are in Appendix D.

#### **3.1 GROUNDWATER TREATMENT SYSTEM INFLUENT AND EFFLUENT SAMPLING**

Samples were collected from the influent and effluent ports of the groundwater treatment system. About 1 gallon of water was purged from each port prior to sampling. Three 40-milliliter (mL) vials preserved with hydrochloric acid (HCl) were collected for analysis for low-level VOCs by the EPA Region 7 laboratory.

#### **3.2 SURFACE WATER SAMPLING**

Three stream samples were collected from the unnamed tributary to Prairie Creek west of the treatment system. One of these stream sample locations was just upstream from the treatment system, one was near the discharge point of the treatment system, and one was approximately 0.5 mile downstream from the treatment system (see Figure 3 in Appendix B).

The direct method of surface water sample collection was applied—placing sample containers under the water surface upstream of the collector, and opening the containers while pointed upstream. Care was taken to avoid disturbing the substrate during sample collection. Samples were collected into three 40-mL vials preserved with HCl, and underwent analysis for low-level VOCs at the EPA Region 7 laboratory.

### 3.3 QUALITY CONTROL SAMPLING

For the purpose of sample quality control (QC), two water field blanks were submitted for analysis for VOCs. These had been collected during the sampling event to assess field- and/or laboratory-introduced contamination. START field sampling personnel prepared the field blank samples by pouring deionized water (supplied by the EPA Region 7 laboratory) directly into sample containers.

No field duplicates were collected because evaluation for total method precision was not necessary for this project.

### 3.4 ANALYTICAL RESULTS

Influent, effluent, and stream samples were collected during two sampling events (one in March and one in June 2018), and were sent to the EPA Region 7 laboratory for VOC analysis. VOC detections are listed in Table 1 below.

PCE and TCE were not detected in any sample during either sampling event. During both sampling events, influent samples were found to contain *cis*-1,2-dichloroethene and vinyl chloride (both natural degradation products of PCE) at levels below the MRBCA thresholds for protection of domestic groundwater use. In addition, the influent samples contained 1,1-dichloroethane, acetone, benzene, chloroethane, ethyl benzene, isopropylbenzene, xylenes, and toluene. These detections also were all below MRBCA thresholds for protection of domestic groundwater use.

Effluent samples were found to contain acetone during the March sampling event and chloroethane during the June sampling event, both at concentrations below MRBCA thresholds for protection of domestic groundwater use.

All three surface water samples yielded detections of 2-butanone during the March sampling event, all of those detections below the MRBCA threshold for protection of domestic groundwater use. Additionally, acetone was detected in surface water sample SS-01 during the March sampling event, and m,p-xylene was detected in surface water sample SS-02 during the June sampling event—both detections below MRBCA thresholds for protection of domestic groundwater use.

TABLE 1

**VOC DETECTIONS IN GROUNDWATER TREATMENT SYSTEM AND SURFACE WATER SAMPLING  
COMMUNITY LAUNDROMAT SITE, AVA, MISSOURI**

Sample Location	EPA Sample ID	Date	1,1-Dichloroethane	cis-1,2-Dichloroethene	2-Butanone	Acetone	Benzene	Chloroethane	Ethyl Benzene	Isopropylbenzene	m and/or p-Xylene	o-Xylene	Toluene	Vinyl Chloride
			MRBCA THRESHOLD FOR PROTECTION OF DOMESTIC GROUNDWATER USE (µg/L)											
			24.9	70	3640	2970	5	48.5	700	330	10000	10000	1000	2
Influent	7798-1	3/13/2018	1.1 J	1.9 J	ND	6.6	ND	1	130	6.8 J	860	140	1 J	1.3
	7889-2	6/26/2018	1.2	1.2	ND	2.4 J	0.11 J	1.5	200	8.7	2100	20	0.68 J	1.8
Effluent	7798-2	3/13/2018	ND	ND	ND	8.4	ND	ND	ND	ND	ND	ND	ND	ND
	7889-1	6/26/2018	ND	ND	ND	ND	ND	1.5	ND	ND	ND	ND	ND	ND
SS-01	7798-4	3/13/2018	ND	ND	8.1 J	9 J	ND	ND	ND	ND	ND	ND	ND	ND
	7889-4	6/26/2018	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND
SS-02	7798-3	3/13/2018	ND	ND	6.1 J	ND	ND	ND	ND	ND	ND	ND	ND	ND
	7889-3	6/26/2018	ND	ND	ND	ND	ND	ND	ND	ND	0.36 J	ND	ND	ND
SS-03	7798-5	3/13/2018	ND	ND	6.1 J	ND	ND	ND	ND	ND	ND	ND	ND	ND
	7889-5	6/26/2018	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND

Notes:

All results in µg/L.

EPA     U.S. Environmental Protection Agency  
J         Estimated value  
ND       Not detected  
µg/L     Micrograms per liter

## **4.0 REMOVAL ACTIVITIES**

The area to be excavated had been identified during previous investigations and was divided into cells as work proceeded. Four cells of varying dimensions were excavated to bedrock during the RA (see Appendix A, Figure 4). Photos from the removal activities are in Appendix B. The following is a narrative timeline of removal activities from August 21 through October 10, 2018.

### **4.1 EXCAVATION ACTIVITIES**

August 21, 2018: EPA OSC Schuette, START PM Handley, and personnel from the EPA Region 7 Emergency and Rapid Response Services (ERRS) contractor Environmental Restoration, LLC (ER) were on site to initiate the RA. Preliminary activities included identification and determination of the fate of a monitoring well, DNRCL02, within the excavation area, identification of the boundaries of the Cell 3 to be excavated, and establishment of staging areas.

Cell 1 was excavated to 5 feet bgs, and a sample of the excavated soil was collected and screened by use of a PID to identify organic vapors (OV). The screening did not detect OVs; the soil was set aside to be used as backfill material. Following subsequent excavation of soil from 5 to 7 feet bgs, a sample of that excavated soil was collected and screened by use of the PID. No OVs were detected, and that excavated soil was staged as backfill.

Near the northwest corner of Cell 1, adjacent to the cell (see Figure 4), a metal tank was unearthed as excavation of the cell proceeded below the initial 7-foot depth. A hole was created by the excavator, and liquid was expelled from the tank. Flow of that odorous (strong mercaptan-like) liquid into Cell 1 was contained with a berm made from excavated soil. The hole was patched with weld putty, but other leaks were observed, so the tank was not moved from the excavation until the liquid could be removed from it. Three 275-gallon poly totes were delivered to the site into which the liquid would be pumped from the tank following extraction of the tank from the excavation.

Cell 1 was excavated to bedrock (approximately 18 feet bgs) within an area of 20 by 25 feet. Most soil excavated from 7 to 16 feet bgs was staged for transport off site because of elevated OV readings on the PID; START collected a composite sample of that excavated soil for disposal analysis. PID readings from soil collected from side walls of the excavation indicated non-detect or extremely low OV concentrations. The staged backfill soil containing no detectable OVs was placed back into the excavated cell. Pumping of the liquid from the buried tank began.

Clean backfill gravel that had been delivered to the site was moved by ERRS because it was over an electric line that ran through the excavation area of Cell 2, east of Cell 1 (see Figure 4). The City would be moving the line the next day before initiation of excavation within Cell 2.

August 22, 2018: City utility workers removed the underground electric line crossing Cell 2 before excavation began there. PID screening identified no OV's in the soil excavated to 8 feet bgs; this soil was set aside for use as backfill. Elevated PID readings from soil within 8 to 13 feet bgs were observed, and this interval of soil was placed on the disposal pile. Excavation of soil in Cell 2 continued to 14 feet bgs; cell area was 18 by 38 feet. OV's were not detected by the PID in soil samples from side walls of Cell 2, except for the east wall where no additional soil could be removed due to close proximity of the on-site building. The clean soil that had been set aside was used to backfill Cell 2.

All liquid from the buried tank that had been exposed adjacent to Cell 1 was transferred into three 275-gallon liquid totes that then were staged on the property away from the excavation area. The tank was removed from the ground and placed away from digging activities.

August 23, 2018: Excavation in Cell 3 occurred. The top 5 feet of soil was set aside for use as backfill, and the deeper soil went onto the disposal pile. Excavation proceeded to 11 feet bgs (bedrock); the cell encompassed an area of 15 by 28 feet. PID screening of side walls indicated sufficient soil had been removed. During excavation of Cell 3, monitoring well DNRCL02 was removed. The cell was backfilled, and excavation activities moved to Cell 4, west of Cell 3 (see Figure 4).

In Cell 4, the top 6 feet of soil was excavated, screened with the PID, and set aside for use as backfill. Excavated soil from the 6- to 10-foot bgs interval was placed with the other soil to be transported off site. PID screening of sidewall soil indicated no OV concentrations. Excavation of the cell proceeded to 10 feet bgs; the cell encompassed an area of 15 by 15 feet. The cell was backfilled. No additional excavation occurred.

## **4.2 ADDITIONAL ACTIVITIES**

Between August 24 and September 11, 2018: EPA and ERRS abandoned several EPA-owned monitoring wells associated with the site. Removal and disposal of granulated carbon from the treatment system occurred. Disposal piles from the excavation were removed from the site and transported to the disposal facility. START was not present for these activities, and thus cannot provide a more complete account.



September 11, 2018: START and ERRS returned to the site to pick up the three totes containing liquid removed from the buried metal tank. The totes were loaded onto two trucks for transport to the receiving facility (Veolia Environmental Services).

The trailer used to house the water treatment system that had been affiliated with the site was removed and transported to be scrapped at a nearby facility. The area where it had been located was re-graded and leveled by ERRS.

October 10, 2018: START returned to Ava to remove VI sampling ports from the following buildings in the vicinity of the site that had been sampled during the 2016 RSE and the 2018 SI:

- Ava Police Department – three ports removed
- Town and Country Supermarket – one port removed
- Missouri Ozark Community Health Clinic – two ports removed
- Missouri Ozark Community Health Wellness Center – two ports removed
- Douglas County Health Department – two ports removed
- Heart of the Hills Food Pantry – unable to remove one port because director unavailable.

## 5.0 SUMMARY

Tetra Tech START was tasked by the EPA Region 7 Superfund Division to assist with a fund-lead RA at the Community Laundromat site in Ava, Missouri (the site). Elements of this task included (1) sampling the groundwater treatment system, (2) collecting post-excavation soil samples for PID screening, and (3) documenting removal activities.

Purposes of this RA were to: (1) monitor ongoing groundwater treatment, and (2) eliminate VOC contamination originating from the Community Laundromat site that was impacting groundwater entering the unnamed tributary of Prairie Creek (via discharge from the groundwater treatment system and/or via an intermittent groundwater seep approximately 750 feet west-southwest of the site).

START conducted one round of groundwater treatment system sampling on March 13, 2018, and another round on June 26, 2018. PCE and TCE were not detected in any sample during either sampling event. During both sampling events, influent samples were found to contain *cis*-1,2-dichlorethene and vinyl chloride (both natural degradation products of PCE) at levels below the MRBCA thresholds for protection of domestic groundwater use.

Soil removal activities began on August 21, 2018, and excavation was completed on August 23, 2018. After the excavated areas had been backfilled with clean soil and gravel, the area was graded. Contaminated soil and liquid waste totes were transported to off-site disposal facilities. The groundwater treatment system trailer was dismantled and transported to an off-site scrap yard for disposal. Site restoration activities were completed on September 11, 2018.

## 6.0 REFERENCES

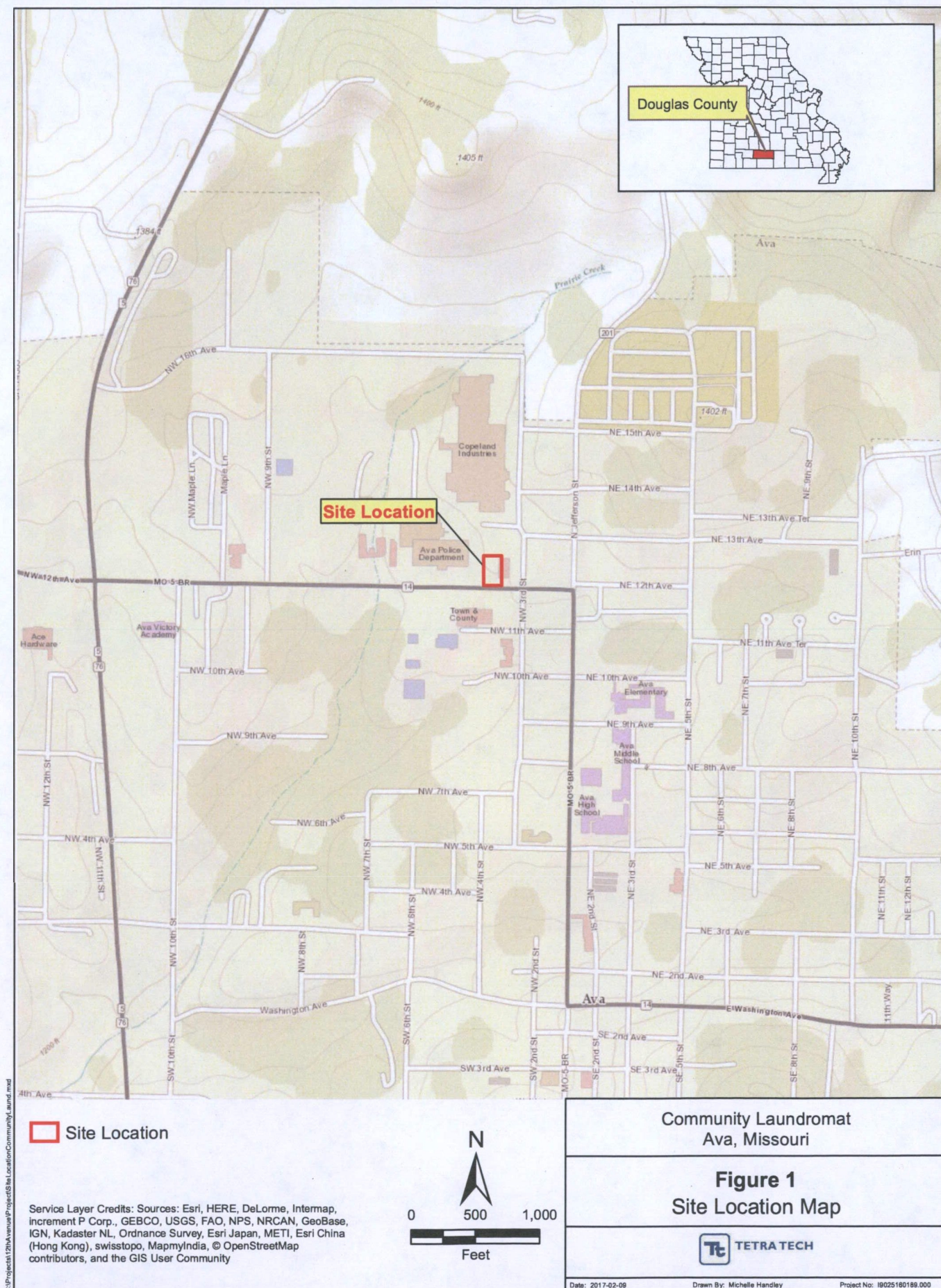
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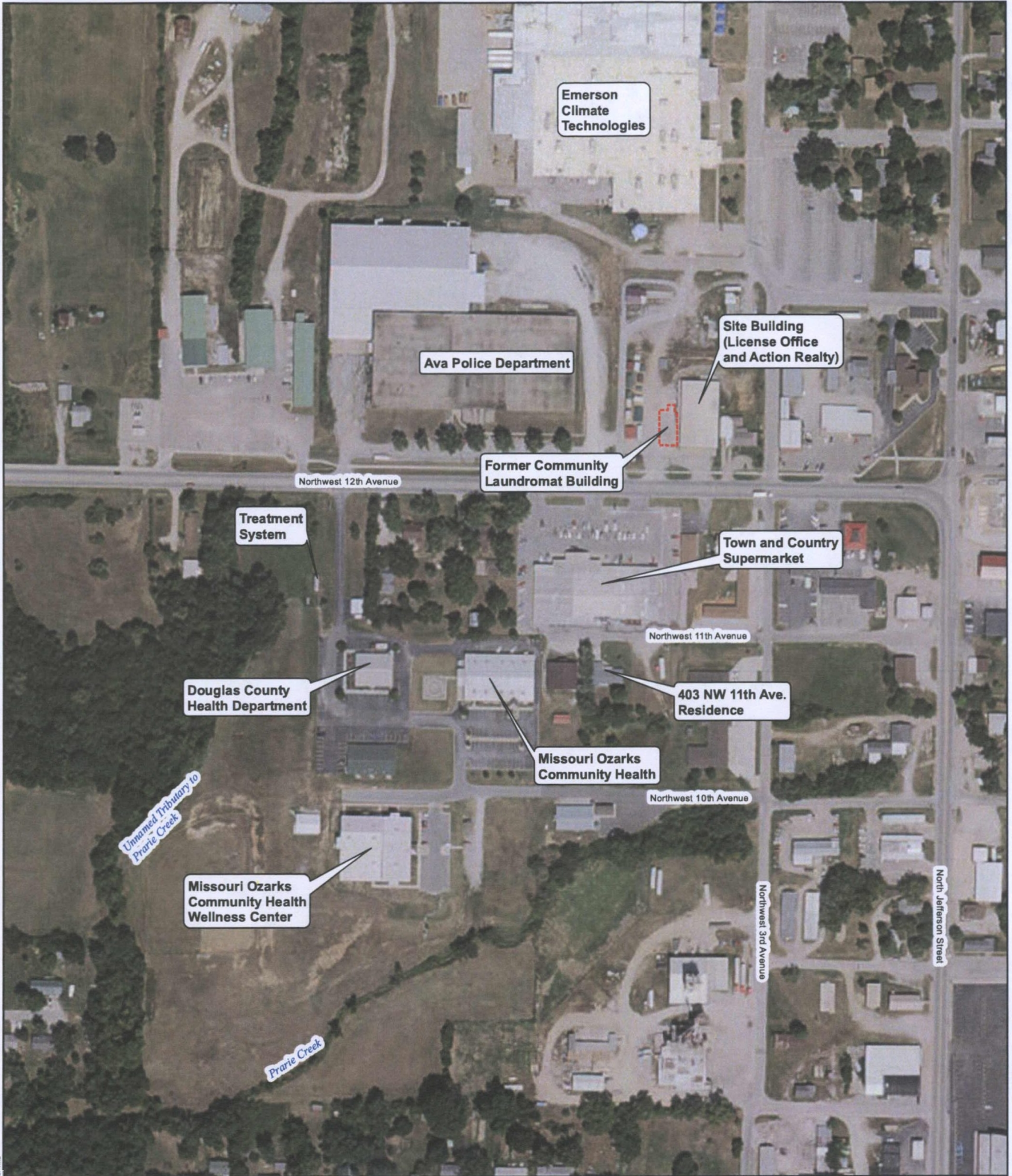
## **APPENDIX A**

### **FIGURES**

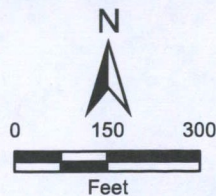








Service Layer Credits: Source: Esri, DigitalGlobe, GeoEye, Earthstar Geographics, CNES/Airbus DS, USDA, USGS, AEX, Getmapping, Aerogrid, IGN, IGP, swisstopo, and the GIS User Community



Community Laundromat  
Ava, Missouri

**Figure 2**  
Site Layout Map

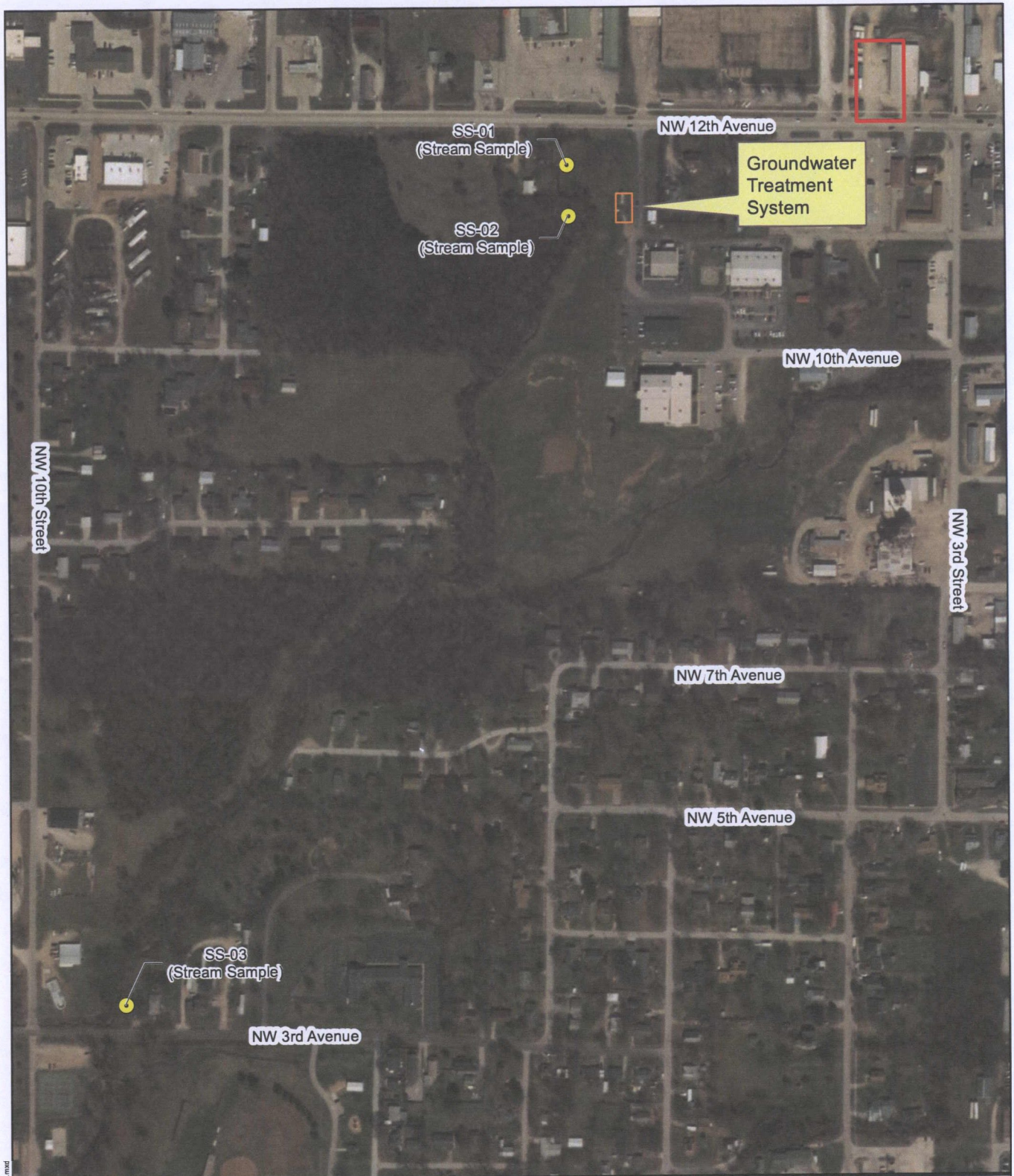


Date: 2017-02-10

Drawn By: Michelle Handley

Project No: 19025160127.000



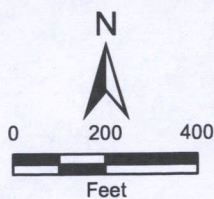


Site Location



Surface Water Sample Location

Service Layer Credits: Esri, HERE, Garmin, © OpenStreetMap contributors, and the GIS user community  
 Source: Esri, DigitalGlobe, GeoEye, Earthstar Geographics, CNES/Airbus DS, USDA, USGS, AeroGRID, IGN, and the GIS User Community



Community Laundromat  
 Ava, Missouri

**Figure 3**  
 Sample Location Map





CELL	DEPTH (ft bgs)	DIMENSIONS (ft)
1	18	20 x 25
2	14	18 x 38
3	11	28 x 15
4	10	15 x 15

Dirt Drive

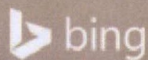
Monitoring Well DNRCL02  
(removed)

Unearthed Tank  
(removed)



Site Building

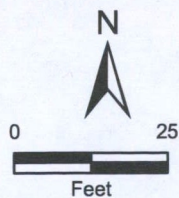
Concrete  
Pad



NW 12th Avenue

□ Excavation Cell

ft    feet  
bgs   below ground surface



Community Laundromat  
Ava, Missouri

**Figure 4**  
Excavation Layout



Date: 2019-01-28

Drawn By: Michelle Handley

Project No: 1802518200.000

C:\Projects\12th Avenue\Project\Site Location\Community\_and\_mad

**APPENDIX B**  
**PHOTOGRAPHIC DOCUMENTATION**



**Community Laundromat Site  
Ava, Missouri**



TETRA TECH PROJECT NO. X9025.18.0200.000	DESCRIPTION	This photograph shows the excavation area prior to beginning of excavating activities.	1
	CLIENT	Environmental Protection Agency - Region 7	DATE 8/21/18
	PHOTOGRAPHER	Michelle Handley	



TETRA TECH PROJECT NO. X9025.18.0200.000	DESCRIPTION	This photograph shows excavation Cell 1.	2
	CLIENT	Environmental Protection Agency - Region 7	DATE 8/21/18
	PHOTOGRAPHER	Michelle Handley	



**Community Laundromat Site  
Ava, Missouri**



TETRA TECH PROJECT NO. X9025.18.0200.000	DESCRIPTION	This photograph shows excavated soil piles cleared for backfill.	3
	CLIENT	Environmental Protection Agency - Region 7	DATE 04/04/18
	PHOTOGRAPHER	Michelle Handley	



TETRA TECH PROJECT NO. X9025.18.0200.000	DESCRIPTION	This photograph shows disposal pile staging area.	4
	CLIENT	Environmental Protection Agency - Region 7	DATE 8/21/18
	PHOTOGRAPHER	Michelle Handley	



**Community Laundromat Site  
Ava, Missouri**



TETRA TECH PROJECT NO. X9025.18.0200.000	DESCRIPTION	This photograph shows metal tank that was unearthed during excavation.	5
	CLIENT	Environmental Protection Agency - Region 7	DATE 8/21/18
	PHOTOGRAPHER	Michelle Handley	



TETRA TECH PROJECT NO. X9025.18.0200.000	DESCRIPTION	This photograph shows backfill of excavation Cell 1.	6
	CLIENT	Environmental Protection Agency - Region 7	DATE 8/21/18
	PHOTOGRAPHER	Michelle Handley	



**Community Laundromat Site  
Ava, Missouri**



TETRA TECH PROJECT NO. X9025.18.0200.000	DESCRIPTION	This photograph shows excavation of Cell 2.	7
	CLIENT	Environmental Protection Agency - Region 7	DATE 8/22/18
	PHOTOGRAPHER	Michelle Handley	



TETRA TECH PROJECT NO. X9025.18.0200.000	DESCRIPTION	This photograph shows unearthed metal tank being pumped out.	8
	CLIENT	Environmental Protection Agency - Region 7	DATE 8/22/18
	PHOTOGRAPHER	Michelle Handley	



**Community Laundromat Site  
Ava, Missouri**



TETRA TECH PROJECT NO. X9025.18.0200.000	DESCRIPTION	This photograph shows backfill of excavation Cell 2.	9
	CLIENT	Environmental Protection Agency - Region 7	DATE 8/22/18
	PHOTOGRAPHER	Michelle Handley	



TETRA TECH PROJECT NO. X9025.18.0200.000	DESCRIPTION	This photograph shows excavation of Cell 3.	10
	CLIENT	Environmental Protection Agency - Region 7	DATE 8/23/18
	PHOTOGRAPHER	Michelle Handley	



**Community Laundromat Site  
Ava, Missouri**



TETRA TECH PROJECT NO. X9025.18.0200.000	DESCRIPTION	This photograph shows entirety of excavation Cell 2.	11
	CLIENT	Environmental Protection Agency - Region 7	DATE 8/23/18
	PHOTOGRAPHER	Michelle Handley	



TETRA TECH PROJECT NO. X9025.18.0200.000	DESCRIPTION	This photograph shows excavation area backfilled, graded, and topped with gravel.	12
	CLIENT	Environmental Protection Agency - Region 7	DATE 8/30/18
	PHOTOGRAPHER	Michelle Handley	



**Community Laundromat Site  
Ava, Missouri**



TETRA TECH PROJECT NO. X9025.18.0200.000	DESCRIPTION	This photograph shows entirety of disposal pile.	13
	CLIENT	Environmental Protection Agency - Region 7	DATE 8/30/18
	PHOTOGRAPHER	Michelle Handley	



TETRA TECH PROJECT NO. X9025.18.0200.000	DESCRIPTION	This photograph shows groundwater treatment trailer being prepared for transport to scrap yard.	14
	CLIENT	Environmental Protection Agency - Region 7	DATE 9/11/18
	PHOTOGRAPHER	Michelle Handley	



**Community Laundromat Site  
Ava, Missouri**



TETRA TECH PROJECT NO. X9025.18.0200.000	DESCRIPTION	This photograph shows area where groundwater treatment trailer was located, having been graded.	15
	CLIENT	Environmental Protection Agency - Region 7	DATE 9/11/18
	PHOTOGRAPHER	Michelle Handley	



TETRA TECH PROJECT NO. X9025.18.0200.000	DESCRIPTION	This photograph shows liquid waste totes being loaded for transport to disposal facility.	16
	CLIENT	Environmental Protection Agency - Region 7	DATE 9/11/18
	PHOTOGRAPHER	Michelle Handley	

## **APPENDIX C**

### **CHAIN-OF-CUSTODY RECORDS AND LABORATORY DATA**



[illegible]

**United States Environmental Protection Agency  
Region 7  
11201 Renner Blvd  
Lenexa, KS 66219**

04/09/2018

**Results of Sample Analysis**

Sample: 7798-1  
Project ID: MSA71M00

These are the results from the analysis of water sample number 7798-1. This sample was collected on 03/13/2018 at the location described as: Influent. If you have any questions about these results, contact Megan Schuette at the above address or by calling 913-551-7630. Correspondence should refer to sample number 7798-1 for project: MSA71M00 - Community Laundromat site.

<b>Analysis/Analyte</b>	<b>Amount Found</b>	<b>Units</b>
<b><u>Volatile Organic Compounds (VOCs) in Water by Gas Chromatography and Mass Selective Detection (GC/MS) for Low Detection Limits</u></b>		
Acetone	6.6	Micrograms per Liter
Benzene	Less Than 0.50	Micrograms per Liter
Bromochloromethane	Less Than 0.50	Micrograms per Liter
Bromodichloromethane	Less Than 0.50	Micrograms per Liter
Bromoform	Less Than 0.50	Micrograms per Liter
Bromomethane	Less Than 0.50	Micrograms per Liter
2-Butanone	Less Than 5.0	Micrograms per Liter
Carbon Disulfide	Less Than 0.50	Micrograms per Liter
Carbon Tetrachloride	Less Than 0.50	Micrograms per Liter
Chlorobenzene	Less Than 0.50	Micrograms per Liter
Chloroethane	1.0	Micrograms per Liter
Chloroform	Less Than 0.50	Micrograms per Liter
Chloromethane	Less Than 0.50	Micrograms per Liter
Cyclohexane	Less Than 0.50	Micrograms per Liter
1,2-Dibromo-3-Chloropropane	Less Than 0.50	Micrograms per Liter
Dibromochloromethane	Less Than 0.50	Micrograms per Liter
1,2-Dibromoethane	Less Than 0.50	Micrograms per Liter
1,2-Dichlorobenzene	Less Than 0.50	Micrograms per Liter
1,3-Dichlorobenzene	Less Than 0.50	Micrograms per Liter
1,4-Dichlorobenzene	Less Than 0.50	Micrograms per Liter
Dichlorodifluoromethane	Less Than 0.50	Micrograms per Liter
1,1-Dichloroethane	Approximately 1.1	Micrograms per Liter
1,2-Dichloroethane	Less Than 0.50	Micrograms per Liter
1,1-Dichloroethene	Less Than 0.50	Micrograms per Liter

Sample: 7798-1  
Project ID: MSA71M00

Analysis/Analyte	Amount Found	Units
cis-1,2-Dichloroethene	Approximately 1.9	Micrograms per Liter
trans-1,2-Dichloroethene	Less Than 0.50	Micrograms per Liter
1,2-Dichloropropane	Less Than 0.50	Micrograms per Liter
cis-1,3-Dichloropropene	Less Than 0.50	Micrograms per Liter
trans-1,3-Dichloropropene	Less Than 0.50	Micrograms per Liter
Ethyl Benzene	130	Micrograms per Liter
2-Hexanone	Less Than 5.0	Micrograms per Liter
Isopropylbenzene	Approximately 6.8	Micrograms per Liter
Methyl Acetate	Less Than 0.50	Micrograms per Liter
Methyl tert-butyl ether	Less Than 0.50	Micrograms per Liter
Methylcyclohexane	Less Than 0.50	Micrograms per Liter
Methylene Chloride	Less Than 0.50	Micrograms per Liter
4-Methyl-2-Pentanone	Less Than 5.0	Micrograms per Liter
Styrene	Less Than 0.50	Micrograms per Liter
1,1,2,2-Tetrachloroethane	Less Than 0.50	Micrograms per Liter
Tetrachloroethene	Less Than 0.50	Micrograms per Liter
Toluene	Approximately 1.0	Micrograms per Liter
1,2,3-Trichlorobenzene	Less Than 0.50	Micrograms per Liter
1,2,4-Trichlorobenzene	Less Than 0.50	Micrograms per Liter
1,1,1-Trichloroethane	Less Than 0.50	Micrograms per Liter
1,1,2-Trichloroethane	Less Than 0.50	Micrograms per Liter
Trichloroethene	Less Than 0.50	Micrograms per Liter
Trichlorofluoromethane	Less Than 0.50	Micrograms per Liter
1,1,2-Trichlorotrifluoroethane	Less Than 0.50	Micrograms per Liter
Vinyl Chloride	1.3	Micrograms per Liter
m and/or p-Xylene	860	Micrograms per Liter
o-Xylene	140	Micrograms per Liter

**United States Environmental Protection Agency  
Region 7  
11201 Renner Blvd  
Lenexa, KS 66219**

04/09/2018

**Results of Sample Analysis**

Sample: 7798-2

Project ID: MSA71M00

These are the results from the analysis of water sample number 7798-2. This sample was collected on 03/13/2018 at the location described as: Effluent. If you have any questions about these results, contact Megan Schuette at the above address or by calling 913-551-7630. Correspondence should refer to sample number 7798-2 for project: MSA71M00 - Community Laundromat site.

<b>Analysis/Analyte</b>	<b>Amount Found</b>	<b>Units</b>
<b><u>Volatile Organic Compounds (VOCs) in Water by Gas Chromatography and Mass Selective Detection (GC/MS) for Low Detection Limits</u></b>		
Acetone	8.4	Micrograms per Liter
Benzene	Less Than 0.50	Micrograms per Liter
Bromochloromethane	Less Than 0.50	Micrograms per Liter
Bromodichloromethane	Less Than 0.50	Micrograms per Liter
Bromoform	Less Than 0.50	Micrograms per Liter
Bromomethane	Less Than 0.50	Micrograms per Liter
2-Butanone	Less Than 5.0	Micrograms per Liter
Carbon Disulfide	Less Than 0.50	Micrograms per Liter
Carbon Tetrachloride	Less Than 0.50	Micrograms per Liter
Chlorobenzene	Less Than 0.50	Micrograms per Liter
Chloroethane	Less Than 0.50	Micrograms per Liter
Chloroform	Less Than 0.50	Micrograms per Liter
Chloromethane	Less Than 0.50	Micrograms per Liter
Cyclohexane	Less Than 0.50	Micrograms per Liter
1,2-Dibromo-3-Chloropropane	Less Than 0.50	Micrograms per Liter
Dibromochloromethane	Less Than 0.50	Micrograms per Liter
1,2-Dibromoethane	Less Than 0.50	Micrograms per Liter
1,2-Dichlorobenzene	Less Than 0.50	Micrograms per Liter
1,3-Dichlorobenzene	Less Than 0.50	Micrograms per Liter
1,4-Dichlorobenzene	Less Than 0.50	Micrograms per Liter
Dichlorodifluoromethane	Less Than 0.50	Micrograms per Liter
1,1-Dichloroethane	Less Than 0.50	Micrograms per Liter
1,2-Dichloroethane	Less Than 0.50	Micrograms per Liter
1,1-Dichloroethene	Less Than 0.50	Micrograms per Liter

Sample: 7798-2  
Project ID: MSA71M00

<b>Analysis/Analyte</b>	<b>Amount Found</b>	<b>Units</b>
cis-1,2-Dichloroethene	Less Than 0.50	Micrograms per Liter
trans-1,2-Dichloroethene	Less Than 0.50	Micrograms per Liter
1,2-Dichloropropane	Less Than 0.50	Micrograms per Liter
cis-1,3-Dichloropropene	Less Than 0.50	Micrograms per Liter
trans-1,3-Dichloropropene	Less Than 0.50	Micrograms per Liter
Ethyl Benzene	Less Than 0.50	Micrograms per Liter
2-Hexanone	Less Than 5.0	Micrograms per Liter
Isopropylbenzene	Less Than 0.50	Micrograms per Liter
Methyl Acetate	Less Than 0.50	Micrograms per Liter
Methyl tert-butyl ether	Less Than 0.50	Micrograms per Liter
Methylcyclohexane	Less Than 0.50	Micrograms per Liter
Methylene Chloride	Less Than 0.50	Micrograms per Liter
4-Methyl-2-Pentanone	Less Than 5.0	Micrograms per Liter
Styrene	Less Than 0.50	Micrograms per Liter
1,1,2,2-Tetrachloroethane	Less Than 0.50	Micrograms per Liter
Tetrachloroethene	Less Than 0.50	Micrograms per Liter
Toluene	Less Than 0.50	Micrograms per Liter
1,2,3-Trichlorobenzene	Less Than 0.50	Micrograms per Liter
1,2,4-Trichlorobenzene	Less Than 0.50	Micrograms per Liter
1,1,1-Trichloroethane	Less Than 0.50	Micrograms per Liter
1,1,2-Trichloroethane	Less Than 0.50	Micrograms per Liter
Trichloroethene	Less Than 0.50	Micrograms per Liter
Trichlorofluoromethane	Less Than 0.50	Micrograms per Liter
1,1,2-Trichlorotrifluoroethane	Less Than 0.50	Micrograms per Liter
Vinyl Chloride	Less Than 0.50	Micrograms per Liter
m and/or p-Xylene	Less Than 0.50	Micrograms per Liter
o-Xylene	Less Than 0.50	Micrograms per Liter



**United States Environmental Protection Agency  
Region 7  
11201 Renner Blvd  
Lenexa, KS 66219**

04/09/2018

**Results of Sample Analysis**

Sample: 7798-3

Project ID: MSA71M00

These are the results from the analysis of water sample number 7798-3. This sample was collected on 03/13/2018 at the location described as: SS-02. If you have any questions about these results, contact Megan Schuette at the above address or by calling 913-551-7630. Correspondence should refer to sample number 7798-3 for project: MSA71M00 - Community Laundromat site.

<b>Analysis/Analyte</b>	<b>Amount Found</b>	<b>Units</b>
<b><u>Volatile Organic Compounds (VOCs) in Water by Gas Chromatography and Mass Selective Detection (GC/MS) for Low Detection Limits</u></b>		
Acetone	Approximately 9.0	Micrograms per Liter
Benzene	Less Than 0.50	Micrograms per Liter
Bromochloromethane	Less Than 0.50	Micrograms per Liter
Bromodichloromethane	Less Than 0.50	Micrograms per Liter
Bromoform	Less Than 0.50	Micrograms per Liter
Bromomethane	Less Than 0.50	Micrograms per Liter
2-Butanone	Approximately 6.1	Micrograms per Liter
Carbon Disulfide	Less Than 0.50	Micrograms per Liter
Carbon Tetrachloride	Less Than 0.50	Micrograms per Liter
Chlorobenzene	Less Than 0.50	Micrograms per Liter
Chloroethane	Less Than 0.50	Micrograms per Liter
Chloroform	Less Than 0.50	Micrograms per Liter
Chloromethane	Less Than 0.50	Micrograms per Liter
Cyclohexane	Less Than 0.50	Micrograms per Liter
1,2-Dibromo-3-Chloropropane	Less Than 0.50	Micrograms per Liter
Dibromochloromethane	Less Than 0.50	Micrograms per Liter
1,2-Dibromoethane	Less Than 0.50	Micrograms per Liter
1,2-Dichlorobenzene	Less Than 0.50	Micrograms per Liter
1,3-Dichlorobenzene	Less Than 0.50	Micrograms per Liter
1,4-Dichlorobenzene	Less Than 0.50	Micrograms per Liter
Dichlorodifluoromethane	Less Than 0.50	Micrograms per Liter
1,1-Dichloroethane	Less Than 0.50	Micrograms per Liter
1,2-Dichloroethane	Less Than 0.50	Micrograms per Liter
1,1-Dichloroethene	Less Than 0.50	Micrograms per Liter

Sample: 7798-3  
Project ID: MSA71M00

<b>Analysis/Analyte</b>	<b>Amount Found</b>	<b>Units</b>
cis-1,2-Dichloroethene	Less Than 0.50	Micrograms per Liter
trans-1,2-Dichloroethene	Less Than 0.50	Micrograms per Liter
1,2-Dichloropropane	Less Than 0.50	Micrograms per Liter
cis-1,3-Dichloropropene	Less Than 0.50	Micrograms per Liter
trans-1,3-Dichloropropene	Less Than 0.50	Micrograms per Liter
Ethyl Benzene	Less Than 0.50	Micrograms per Liter
2-Hexanone	Less Than 5.0	Micrograms per Liter
Isopropylbenzene	Less Than 0.50	Micrograms per Liter
Methyl Acetate	Less Than 0.50	Micrograms per Liter
Methyl tert-butyl ether	Less Than 0.50	Micrograms per Liter
Methylcyclohexane	Less Than 0.50	Micrograms per Liter
Methylene Chloride	Less Than 0.50	Micrograms per Liter
4-Methyl-2-Pentanone	Less Than 5.0	Micrograms per Liter
Styrene	Less Than 0.50	Micrograms per Liter
1,1,2,2-Tetrachloroethane	Less Than 0.50	Micrograms per Liter
Tetrachloroethene	Less Than 0.50	Micrograms per Liter
Toluene	Less Than 0.50	Micrograms per Liter
1,2,3-Trichlorobenzene	Less Than 0.50	Micrograms per Liter
1,2,4-Trichlorobenzene	Less Than 0.50	Micrograms per Liter
1,1,1-Trichloroethane	Less Than 0.50	Micrograms per Liter
1,1,2-Trichloroethane	Less Than 0.50	Micrograms per Liter
Trichloroethene	Less Than 0.50	Micrograms per Liter
Trichlorofluoromethane	Less Than 0.50	Micrograms per Liter
1,1,2-Trichlorotrifluoroethane	Less Than 0.50	Micrograms per Liter
Vinyl Chloride	Less Than 0.50	Micrograms per Liter
m and/or p-Xylene	Less Than 0.50	Micrograms per Liter
o-Xylene	Less Than 0.50	Micrograms per Liter

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04/09/2018

**Results of Sample Analysis**

Sample: 7798-4

Project ID: MSA71M00

These are the results from the analysis of water sample number 7798-4. This sample was collected on 03/13/2018 at the location described as: SS-01. If you have any questions about these results, contact Megan Schuette at the above address or by calling 913-551-7630. Correspondence should refer to sample number 7798-4 for project: MSA71M00 - Community Laundromat site.

<b>Analysis/Analyte</b>	<b>Amount Found</b>	<b>Units</b>
<b><u>Volatile Organic Compounds (VOCs) in Water by Gas Chromatography and Mass Selective Detection (GC/MS) for Low Detection Limits</u></b>		
Acetone	Less Than 5.0	Micrograms per Liter
Benzene	Less Than 0.50	Micrograms per Liter
Bromochloromethane	Less Than 0.50	Micrograms per Liter
Bromodichloromethane	Less Than 0.50	Micrograms per Liter
Bromoform	Less Than 0.50	Micrograms per Liter
Bromomethane	Less Than 0.50	Micrograms per Liter
2-Butanone	Approximately 8.1	Micrograms per Liter
Carbon Disulfide	Less Than 0.50	Micrograms per Liter
Carbon Tetrachloride	Less Than 0.50	Micrograms per Liter
Chlorobenzene	Less Than 0.50	Micrograms per Liter
Chloroethane	Less Than 0.50	Micrograms per Liter
Chloroform	Less Than 0.50	Micrograms per Liter
Chloromethane	Less Than 0.50	Micrograms per Liter
Cyclohexane	Less Than 0.50	Micrograms per Liter
1,2-Dibromo-3-Chloropropane	Less Than 0.50	Micrograms per Liter
Dibromochloromethane	Less Than 0.50	Micrograms per Liter
1,2-Dibromoethane	Less Than 0.50	Micrograms per Liter
1,2-Dichlorobenzene	Less Than 0.50	Micrograms per Liter
1,3-Dichlorobenzene	Less Than 0.50	Micrograms per Liter
1,4-Dichlorobenzene	Less Than 0.50	Micrograms per Liter
Dichlorodifluoromethane	Less Than 0.50	Micrograms per Liter
1,1-Dichloroethane	Less Than 0.50	Micrograms per Liter
1,2-Dichloroethane	Less Than 0.50	Micrograms per Liter
1,1-Dichloroethene	Less Than 0.50	Micrograms per Liter

Sample: 7798-4  
Project ID: MSA71M00

<b>Analysis/Analyte</b>	<b>Amount Found</b>	<b>Units</b>
cis-1,2-Dichloroethene	Less Than 0.50	Micrograms per Liter
trans-1,2-Dichloroethene	Less Than 0.50	Micrograms per Liter
1,2-Dichloropropane	Less Than 0.50	Micrograms per Liter
cis-1,3-Dichloropropene	Less Than 0.50	Micrograms per Liter
trans-1,3-Dichloropropene	Less Than 0.50	Micrograms per Liter
Ethyl Benzene	Less Than 0.50	Micrograms per Liter
2-Hexanone	Less Than 5.0	Micrograms per Liter
Isopropylbenzene	Less Than 0.50	Micrograms per Liter
Methyl Acetate	Less Than 0.50	Micrograms per Liter
Methyl tert-butyl ether	Less Than 0.50	Micrograms per Liter
Methylcyclohexane	Less Than 0.50	Micrograms per Liter
Methylene Chloride	Less Than 0.50	Micrograms per Liter
4-Methyl-2-Pentanone	Less Than 5.0	Micrograms per Liter
Styrene	Less Than 0.50	Micrograms per Liter
1,1,2,2-Tetrachloroethane	Less Than 0.50	Micrograms per Liter
Tetrachloroethene	Less Than 0.50	Micrograms per Liter
Toluene	Less Than 0.50	Micrograms per Liter
1,2,3-Trichlorobenzene	Less Than 0.50	Micrograms per Liter
1,2,4-Trichlorobenzene	Less Than 0.50	Micrograms per Liter
1,1,1-Trichloroethane	Less Than 0.50	Micrograms per Liter
1,1,2-Trichloroethane	Less Than 0.50	Micrograms per Liter
Trichloroethene	Less Than 0.50	Micrograms per Liter
Trichlorofluoromethane	Less Than 0.50	Micrograms per Liter
1,1,2-Trichlorotrifluoroethane	Less Than 0.50	Micrograms per Liter
Vinyl Chloride	Less Than 0.50	Micrograms per Liter
m and/or p-Xylene	Less Than 0.50	Micrograms per Liter
o-Xylene	Less Than 0.50	Micrograms per Liter

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**Results of Sample Analysis**

Sample: 7798-5  
Project ID: MSA71M00

These are the results from the analysis of water sample number 7798-5. This sample was collected on 03/13/2018 at the location described as: SS-03. If you have any questions about these results, contact Megan Schuette at the above address or by calling 913-551-7630. Correspondence should refer to sample number 7798-5 for project: MSA71M00 - Community Laundromat site.

<b>Analysis/Analyte</b>	<b>Amount Found</b>	<b>Units</b>
<b><u>Volatile Organic Compounds (VOCs) in Water by Gas Chromatography and Mass Selective Detection (GC/MS) for Low Detection Limits</u></b>		
Acetone	Less Than 5.0	Micrograms per Liter
Benzene	Less Than 0.50	Micrograms per Liter
Bromochloromethane	Less Than 0.50	Micrograms per Liter
Bromodichloromethane	Less Than 0.50	Micrograms per Liter
Bromoform	Less Than 0.50	Micrograms per Liter
Bromomethane	Less Than 0.50	Micrograms per Liter
2-Butanone	Approximately 6.1	Micrograms per Liter
Carbon Disulfide	Less Than 0.50	Micrograms per Liter
Carbon Tetrachloride	Less Than 0.50	Micrograms per Liter
Chlorobenzene	Less Than 0.50	Micrograms per Liter
Chloroethane	Less Than 0.50	Micrograms per Liter
Chloroform	Less Than 0.50	Micrograms per Liter
Chloromethane	Less Than 0.50	Micrograms per Liter
Cyclohexane	Less Than 0.50	Micrograms per Liter
1,2-Dibromo-3-Chloropropane	Less Than 0.50	Micrograms per Liter
Dibromochloromethane	Less Than 0.50	Micrograms per Liter
1,2-Dibromoethane	Less Than 0.50	Micrograms per Liter
1,2-Dichlorobenzene	Less Than 0.50	Micrograms per Liter
1,3-Dichlorobenzene	Less Than 0.50	Micrograms per Liter
1,4-Dichlorobenzene	Less Than 0.50	Micrograms per Liter
Dichlorodifluoromethane	Less Than 0.50	Micrograms per Liter
1,1-Dichloroethane	Less Than 0.50	Micrograms per Liter
1,2-Dichloroethane	Less Than 0.50	Micrograms per Liter
1,1-Dichloroethene	Less Than 0.50	Micrograms per Liter

Sample: 7798-5  
Project ID: MSA71M00

Analysis/Analyte	Amount Found	Units
cis-1,2-Dichloroethene	Less Than 0.50	Micrograms per Liter
trans-1,2-Dichloroethene	Less Than 0.50	Micrograms per Liter
1,2-Dichloropropane	Less Than 0.50	Micrograms per Liter
cis-1,3-Dichloropropene	Less Than 0.50	Micrograms per Liter
trans-1,3-Dichloropropene	Less Than 0.50	Micrograms per Liter
Ethyl Benzene	Less Than 0.50	Micrograms per Liter
2-Hexanone	Less Than 5.0	Micrograms per Liter
Isopropylbenzene	Less Than 0.50	Micrograms per Liter
Methyl Acetate	Less Than 0.50	Micrograms per Liter
Methyl tert-butyl ether	Less Than 0.50	Micrograms per Liter
Methylcyclohexane	Less Than 0.50	Micrograms per Liter
Methylene Chloride	Less Than 0.50	Micrograms per Liter
4-Methyl-2-Pentanone	Less Than 5.0	Micrograms per Liter
Styrene	Less Than 0.50	Micrograms per Liter
1,1,2,2-Tetrachloroethane	Less Than 0.50	Micrograms per Liter
Tetrachloroethene	Less Than 0.50	Micrograms per Liter
Toluene	Less Than 0.50	Micrograms per Liter
1,2,3-Trichlorobenzene	Less Than 0.50	Micrograms per Liter
1,2,4-Trichlorobenzene	Less Than 0.50	Micrograms per Liter
1,1,1-Trichloroethane	Less Than 0.50	Micrograms per Liter
1,1,2-Trichloroethane	Less Than 0.50	Micrograms per Liter
Trichloroethene	Less Than 0.50	Micrograms per Liter
Trichlorofluoromethane	Less Than 0.50	Micrograms per Liter
1,1,2-Trichlorotrifluoroethane	Less Than 0.50	Micrograms per Liter
Vinyl Chloride	Less Than 0.50	Micrograms per Liter
m and/or p-Xylene	Less Than 0.50	Micrograms per Liter
o-Xylene	Less Than 0.50	Micrograms per Liter

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**Results of Sample Analysis**

Sample: 7798-6-FB  
Project ID: MSA71M00

These are the results from the analysis of water sample number 7798-6-FB. This sample was collected on 03/13/2018 at the location described as: Field Blank. If you have any questions about these results, contact Megan Schuette at the above address or by calling 913-551-7630. Correspondence should refer to sample number 7798-6-FB for project: MSA71M00 - Community Laundromat site.

<b>Analysis/Analyte</b>	<b>Amount Found</b>	<b>Units</b>
<b><u>Volatile Organic Compounds (VOCs) in Water by Gas Chromatography and Mass Selective Detection (GC/MS) for Low Detection Limits</u></b>		
Acetone	7.3	Micrograms per Liter
Benzene	Less Than 0.50	Micrograms per Liter
Bromochloromethane	Less Than 0.50	Micrograms per Liter
Bromodichloromethane	Less Than 0.50	Micrograms per Liter
Bromoform	Less Than 0.50	Micrograms per Liter
Bromomethane	Less Than 0.50	Micrograms per Liter
2-Butanone	Less Than 5.0	Micrograms per Liter
Carbon Disulfide	5.6	Micrograms per Liter
Carbon Tetrachloride	Less Than 0.50	Micrograms per Liter
Chlorobenzene	Less Than 0.50	Micrograms per Liter
Chloroethane	Less Than 0.50	Micrograms per Liter
Chloroform	Less Than 0.50	Micrograms per Liter
Chloromethane	Less Than 0.50	Micrograms per Liter
Cyclohexane	Less Than 0.50	Micrograms per Liter
1,2-Dibromo-3-Chloropropane	Less Than 0.50	Micrograms per Liter
Dibromochloromethane	Less Than 0.50	Micrograms per Liter
1,2-Dibromoethane	Less Than 0.50	Micrograms per Liter
1,2-Dichlorobenzene	Less Than 0.50	Micrograms per Liter
1,3-Dichlorobenzene	Less Than 0.50	Micrograms per Liter
1,4-Dichlorobenzene	Less Than 0.50	Micrograms per Liter
Dichlorodifluoromethane	Less Than 0.50	Micrograms per Liter
1,1-Dichloroethane	Less Than 0.50	Micrograms per Liter
1,2-Dichloroethane	Less Than 0.50	Micrograms per Liter
1,1-Dichloroethene	Less Than 0.50	Micrograms per Liter

Sample: 7798-6-FB  
Project ID: MSA71M00

<b>Analysis / Analyte</b>	<b>Amount Found</b>	<b>Units</b>
cis-1,2-Dichloroethene	Less Than 0.50	Micrograms per Liter
trans-1,2-Dichloroethene	Less Than 0.50	Micrograms per Liter
1,2-Dichloropropane	Less Than 0.50	Micrograms per Liter
cis-1,3-Dichloropropene	Less Than 0.50	Micrograms per Liter
trans-1,3-Dichloropropene	Less Than 0.50	Micrograms per Liter
Ethyl Benzene	Less Than 0.50	Micrograms per Liter
2-Hexanone	Less Than 5.0	Micrograms per Liter
Isopropylbenzene	Less Than 0.50	Micrograms per Liter
Methyl Acetate	Less Than 0.50	Micrograms per Liter
Methyl tert-butyl ether	Less Than 0.50	Micrograms per Liter
Methylcyclohexane	Less Than 0.50	Micrograms per Liter
Methylene Chloride	Less Than 0.50	Micrograms per Liter
4-Methyl-2-Pentanone	Less Than 5.0	Micrograms per Liter
Styrene	Less Than 0.50	Micrograms per Liter
1,1,2,2-Tetrachloroethane	Less Than 0.50	Micrograms per Liter
Tetrachloroethene	Less Than 0.50	Micrograms per Liter
Toluene	Less Than 0.50	Micrograms per Liter
1,2,3-Trichlorobenzene	Less Than 0.50	Micrograms per Liter
1,2,4-Trichlorobenzene	Less Than 0.50	Micrograms per Liter
1,1,1-Trichloroethane	Less Than 0.50	Micrograms per Liter
1,1,2-Trichloroethane	Less Than 0.50	Micrograms per Liter
Trichloroethene	Less Than 0.50	Micrograms per Liter
Trichlorofluoromethane	Less Than 0.50	Micrograms per Liter
1,1,2-Trichlorotrifluoroethane	Less Than 0.50	Micrograms per Liter
Vinyl Chloride	Less Than 0.50	Micrograms per Liter
m and/or p-Xylene	Less Than 0.50	Micrograms per Liter
o-Xylene	Less Than 0.50	Micrograms per Liter



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07/24/2018

**Results of Sample Analysis**

Sample: 7889-1  
Project ID: MSA71M00

These are the results from the analysis of water sample number 7889-1. This sample was collected on 06/26/2018 at the location described as: Effluent. If you have any questions about these results, contact Megan Schuette at the above address or by calling 913-551-7630. Correspondence should refer to sample number 7889-1 for project: MSA71M00 - Community Laundromat site.

<b>Analysis/Analyte</b>	<b>Amount Found</b>	<b>Units</b>
<b><u>Volatile Organic Compounds (VOCs) in Water by Gas Chromatography and Mass Selective Detection (GC/MS) for Low Detection Limits</u></b>		
Acetone	Less Than 2.1	Micrograms per Liter
Benzene	Less Than 0.031	Micrograms per Liter
Bromodichloromethane	Less Than 0.16	Micrograms per Liter
Bromoform	Less Than 0.16	Micrograms per Liter
Bromomethane	Less Than 0.14	Micrograms per Liter
2-Butanone	Less Than 1.1	Micrograms per Liter
Carbon Disulfide	Less Than 0.21	Micrograms per Liter
Carbon Tetrachloride	Less Than 0.22	Micrograms per Liter
Chlorobenzene	Less Than 0.039	Micrograms per Liter
Chloroethane	1.5	Micrograms per Liter
Chloroform	Less Than 0.13	Micrograms per Liter
Chloromethane	Less Than 0.16	Micrograms per Liter
Cyclohexane	Less Than 0.31	Micrograms per Liter
1,2-Dibromo-3-Chloropropane	Less Than 0.25	Micrograms per Liter
Dibromochloromethane	Less Than 0.10	Micrograms per Liter
1,2-Dibromoethane	Less Than 0.15	Micrograms per Liter
1,2-Dichlorobenzene	Less Than 0.11	Micrograms per Liter
1,3-Dichlorobenzene	Less Than 0.12	Micrograms per Liter
1,4-Dichlorobenzene	Less Than 0.11	Micrograms per Liter
Dichlorodifluoromethane	Less Than 0.23	Micrograms per Liter
1,1-Dichloroethane	Less Than 0.16	Micrograms per Liter
1,2-Dichloroethane	Less Than 0.13	Micrograms per Liter
1,1-Dichloroethene	Less Than 0.22	Micrograms per Liter
cis-1,2-Dichloroethene	Less Than 0.17	Micrograms per Liter

Sample: 7889-1  
Project ID: MSA71M00

Analysis/Analyte	Amount Found	Units
trans-1,2-Dichloroethene	Less Than 0.21	Micrograms per Liter
1,2-Dichloropropane	Less Than 0.10	Micrograms per Liter
cis-1,3-Dichloropropene	Less Than 0.038	Micrograms per Liter
trans-1,3-Dichloropropene	Less Than 0.12	Micrograms per Liter
Ethyl Benzene	Less Than 0.11	Micrograms per Liter
2-Hexanone	Less Than 1.7	Micrograms per Liter
Isopropylbenzene	Less Than 0.13	Micrograms per Liter
Methyl Acetate	Less Than 0.20	Micrograms per Liter
Methyl tert-butyl ether	Less Than 0.12	Micrograms per Liter
Methylcyclohexane	Less Than 0.27	Micrograms per Liter
Methylene Chloride	Less Than 0.19	Micrograms per Liter
4-Methyl-2-Pentanone	Less Than 0.16	Micrograms per Liter
Naphthalene	Less Than 0.16	Micrograms per Liter
Styrene	Less Than 0.15	Micrograms per Liter
1,1,2,2-Tetrachloroethane	Less Than 0.20	Micrograms per Liter
Tetrachloroethene	Less Than 0.17	Micrograms per Liter
Toluene	Less Than 0.11	Micrograms per Liter
1,2,3-Trichlorobenzene	Less Than 0.25	Micrograms per Liter
1,2,4-Trichlorobenzene	Less Than 0.20	Micrograms per Liter
1,1,1-Trichloroethane	Less Than 0.21	Micrograms per Liter
1,1,2-Trichloroethane	Less Than 0.16	Micrograms per Liter
Trichloroethene	Less Than 0.12	Micrograms per Liter
Trichlorofluoromethane	Less Than 0.26	Micrograms per Liter
1,1,2-Trichlorotrifluoroethane	Less Than 0.24	Micrograms per Liter
Vinyl Chloride	Less Than 0.20	Micrograms per Liter
m and/or p-Xylene	Less Than 0.23	Micrograms per Liter
o-Xylene	Less Than 0.13	Micrograms per Liter

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07/24/2018

**Results of Sample Analysis**

Sample: 7889-2

Project ID: MSA71M00

These are the results from the analysis of water sample number 7889-2. This sample was collected on 06/26/2018 at the location described as: Influent. If you have any questions about these results, contact Megan Schuette at the above address or by calling 913-551-7630. Correspondence should refer to sample number 7889-2 for project: MSA71M00 - Community Laundromat site.

<b>Analysis/Analyte</b>	<b>Amount Found</b>	<b>Units</b>
<b><u>Volatile Organic Compounds (VOCs) in Water by Gas Chromatography and Mass Selective Detection (GC/MS) for Low Detection Limits</u></b>		
Acetone	Approximately 2.4	Micrograms per Liter
Benzene	Approximately 0.11	Micrograms per Liter
Bromodichloromethane	Less Than 0.16	Micrograms per Liter
Bromoform	Less Than 0.16	Micrograms per Liter
Bromomethane	Less Than 0.14	Micrograms per Liter
2-Butanone	Less Than 1.1	Micrograms per Liter
Carbon Disulfide	Less Than 0.21	Micrograms per Liter
Carbon Tetrachloride	Less Than 0.22	Micrograms per Liter
Chlorobenzene	Less Than 0.039	Micrograms per Liter
Chloroethane	1.5	Micrograms per Liter
Chloroform	Less Than 0.13	Micrograms per Liter
Chloromethane	Less Than 0.16	Micrograms per Liter
Cyclohexane	Less Than 0.31	Micrograms per Liter
1,2-Dibromo-3-Chloropropane	Less Than 0.25	Micrograms per Liter
Dibromochloromethane	Less Than 0.10	Micrograms per Liter
1,2-Dibromoethane	Less Than 0.15	Micrograms per Liter
1,2-Dichlorobenzene	Less Than 0.11	Micrograms per Liter
1,3-Dichlorobenzene	Less Than 0.12	Micrograms per Liter
1,4-Dichlorobenzene	Less Than 0.11	Micrograms per Liter
Dichlorodifluoromethane	Less Than 0.23	Micrograms per Liter
1,1-Dichloroethane	1.2	Micrograms per Liter
1,2-Dichloroethane	Less Than 0.13	Micrograms per Liter
1,1-Dichloroethene	Less Than 0.22	Micrograms per Liter
cis-1,2-Dichloroethene	1.2	Micrograms per Liter

Sample: 7889-2  
Project ID: MSA71M00

Analysis/Analyte	Amount Found	Units
trans-1,2-Dichloroethene	Less Than 0.21	Micrograms per Liter
1,2-Dichloropropane	Less Than 0.10	Micrograms per Liter
cis-1,3-Dichloropropene	Less Than 0.038	Micrograms per Liter
trans-1,3-Dichloropropene	Less Than 0.12	Micrograms per Liter
Ethyl Benzene	200	Micrograms per Liter
2-Hexanone	Less Than 1.7	Micrograms per Liter
Isopropylbenzene	8.7	Micrograms per Liter
Methyl Acetate	Less Than 0.20	Micrograms per Liter
Methyl tert-butyl ether	Less Than 0.12	Micrograms per Liter
Methylcyclohexane	Less Than 0.27	Micrograms per Liter
Methylene Chloride	Less Than 0.19	Micrograms per Liter
4-Methyl-2-Pentanone	Less Than 0.16	Micrograms per Liter
Naphthalene	Less Than 0.16	Micrograms per Liter
Styrene	Less Than 0.15	Micrograms per Liter
1,1,2,2-Tetrachloroethane	Less Than 0.20	Micrograms per Liter
Tetrachloroethene	Less Than 0.17	Micrograms per Liter
Toluene	Approximately 0.68	Micrograms per Liter
1,2,3-Trichlorobenzene	Less Than 0.25	Micrograms per Liter
1,2,4-Trichlorobenzene	Less Than 0.20	Micrograms per Liter
1,1,1-Trichloroethane	Less Than 0.21	Micrograms per Liter
1,1,2-Trichloroethane	Less Than 0.16	Micrograms per Liter
Trichloroethene	Less Than 0.12	Micrograms per Liter
Trichlorofluoromethane	Less Than 0.26	Micrograms per Liter
1,1,2-Trichlorotrifluoroethane	Less Than 0.24	Micrograms per Liter
Vinyl Chloride	1.8	Micrograms per Liter
m and/or p-Xylene	2100	Micrograms per Liter
o-Xylene	20	Micrograms per Liter

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**Results of Sample Analysis**

Sample: 7889-3  
Project ID: MSA71M00

These are the results from the analysis of water sample number 7889-3. This sample was collected on 06/26/2018 at the location described as: SS-02. If you have any questions about these results, contact Megan Schuette at the above address or by calling 913-551-7630. Correspondence should refer to sample number 7889-3 for project: MSA71M00 - Community Laundromat site.

<b>Analysis/Analyte</b>	<b>Amount Found</b>	<b>Units</b>
<b><u>Volatile Organic Compounds (VOCs) in Water by Gas Chromatography and Mass Selective Detection (GC/MS) for Low Detection Limits</u></b>		
Acetone	Less Than 2.1	Micrograms per Liter
Benzene	Less Than 0.031	Micrograms per Liter
Bromodichloromethane	Less Than 0.16	Micrograms per Liter
Bromoform	Less Than 0.16	Micrograms per Liter
Bromomethane	Less Than 0.14	Micrograms per Liter
2-Butanone	Less Than 1.1	Micrograms per Liter
Carbon Disulfide	Less Than 0.21	Micrograms per Liter
Carbon Tetrachloride	Less Than 0.22	Micrograms per Liter
Chlorobenzene	Less Than 0.039	Micrograms per Liter
Chloroethane	Less Than 0.16	Micrograms per Liter
Chloroform	Less Than 0.13	Micrograms per Liter
Chloromethane	Less Than 0.16	Micrograms per Liter
Cyclohexane	Less Than 0.31	Micrograms per Liter
1,2-Dibromo-3-Chloropropane	Less Than 0.25	Micrograms per Liter
Dibromochloromethane	Less Than 0.10	Micrograms per Liter
1,2-Dibromoethane	Less Than 0.15	Micrograms per Liter
1,2-Dichlorobenzene	Less Than 0.11	Micrograms per Liter
1,3-Dichlorobenzene	Less Than 0.12	Micrograms per Liter
1,4-Dichlorobenzene	Less Than 0.11	Micrograms per Liter
Dichlorodifluoromethane	Less Than 0.23	Micrograms per Liter
1,1-Dichloroethane	Less Than 0.16	Micrograms per Liter
1,2-Dichloroethane	Less Than 0.13	Micrograms per Liter
1,1-Dichloroethene	Less Than 0.22	Micrograms per Liter
cis-1,2-Dichloroethene	Less Than 0.17	Micrograms per Liter

Sample: 7889-3  
Project ID: MSA71M00

Analysis/Analyte	Amount Found	Units
trans-1,2-Dichloroethene	Less Than 0.21	Micrograms per Liter
1,2-Dichloropropane	Less Than 0.10	Micrograms per Liter
cis-1,3-Dichloropropene	Less Than 0.038	Micrograms per Liter
trans-1,3-Dichloropropene	Less Than 0.12	Micrograms per Liter
Ethyl Benzene	Less Than 0.11	Micrograms per Liter
2-Hexanone	Less Than 1.7	Micrograms per Liter
Isopropylbenzene	Less Than 0.13	Micrograms per Liter
Methyl Acetate	Less Than 0.20	Micrograms per Liter
Methyl tert-butyl ether	Less Than 0.12	Micrograms per Liter
Methylcyclohexane	Less Than 0.27	Micrograms per Liter
Methylene Chloride	Less Than 0.19	Micrograms per Liter
4-Methyl-2-Pentanone	Less Than 0.16	Micrograms per Liter
Naphthalene	Less Than 0.16	Micrograms per Liter
Styrene	Less Than 0.15	Micrograms per Liter
1,1,2,2-Tetrachloroethane	Less Than 0.20	Micrograms per Liter
Tetrachloroethene	Less Than 0.17	Micrograms per Liter
Toluene	Less Than 0.11	Micrograms per Liter
1,2,3-Trichlorobenzene	Less Than 0.25	Micrograms per Liter
1,2,4-Trichlorobenzene	Less Than 0.20	Micrograms per Liter
1,1,1-Trichloroethane	Less Than 0.21	Micrograms per Liter
1,1,2-Trichloroethane	Less Than 0.16	Micrograms per Liter
Trichloroethene	Less Than 0.12	Micrograms per Liter
Trichlorofluoromethane	Less Than 0.26	Micrograms per Liter
1,1,2-Trichlorotrifluoroethane	Less Than 0.24	Micrograms per Liter
Vinyl Chloride	Less Than 0.20	Micrograms per Liter
m and/or p-Xylene	Approximately 0.36	Micrograms per Liter
o-Xylene	Less Than 0.13	Micrograms per Liter



**United States Environmental Protection Agency  
Region 7  
11201 Renner Blvd  
Lenexa, KS 66219**

07/24/2018

**Results of Sample Analysis**

Sample: 7889-4  
Project ID: MSA71M00

These are the results from the analysis of water sample number 7889-4. This sample was collected on 06/26/2018 at the location described as: SS-01. If you have any questions about these results, contact Megan Schuette at the above address or by calling 913-551-7630. Correspondence should refer to sample number 7889-4 for project: MSA71M00 - Community Laundromat site.

<b>Analysis/Analyte</b>	<b>Amount Found</b>	<b>Units</b>
<b><u>Volatile Organic Compounds (VOCs) in Water by Gas Chromatography and Mass Selective Detection (GC/MS) for Low Detection Limits</u></b>		
Acetone	Less Than 2.1	Micrograms per Liter
Benzene	Less Than 0.031	Micrograms per Liter
Bromodichloromethane	Less Than 0.16	Micrograms per Liter
Bromoform	Less Than 0.16	Micrograms per Liter
Bromomethane	Less Than 0.14	Micrograms per Liter
2-Butanone	Less Than 1.1	Micrograms per Liter
Carbon Disulfide	Less Than 0.21	Micrograms per Liter
Carbon Tetrachloride	Less Than 0.22	Micrograms per Liter
Chlorobenzene	Less Than 0.039	Micrograms per Liter
Chloroethane	Less Than 0.16	Micrograms per Liter
Chloroform	Less Than 0.13	Micrograms per Liter
Chloromethane	Less Than 0.16	Micrograms per Liter
Cyclohexane	Less Than 0.31	Micrograms per Liter
1,2-Dibromo-3-Chloropropane	Less Than 0.25	Micrograms per Liter
Dibromochloromethane	Less Than 0.10	Micrograms per Liter
1,2-Dibromoethane	Less Than 0.15	Micrograms per Liter
1,2-Dichlorobenzene	Less Than 0.11	Micrograms per Liter
1,3-Dichlorobenzene	Less Than 0.12	Micrograms per Liter
1,4-Dichlorobenzene	Less Than 0.11	Micrograms per Liter
Dichlorodifluoromethane	Less Than 0.23	Micrograms per Liter
1,1-Dichloroethane	Less Than 0.16	Micrograms per Liter
1,2-Dichloroethane	Less Than 0.13	Micrograms per Liter
1,1-Dichloroethene	Less Than 0.22	Micrograms per Liter
cis-1,2-Dichloroethene	Less Than 0.17	Micrograms per Liter

Sample: 7889-4  
Project ID: MSA71M00

Analysis/Analyte	Amount Found	Units
trans-1,2-Dichloroethene	Less Than 0.21	Micrograms per Liter
1,2-Dichloropropane	Less Than 0.10	Micrograms per Liter
cis-1,3-Dichloropropene	Less Than 0.038	Micrograms per Liter
trans-1,3-Dichloropropene	Less Than 0.12	Micrograms per Liter
Ethyl Benzene	Less Than 0.11	Micrograms per Liter
2-Hexanone	Less Than 1.7	Micrograms per Liter
Isopropylbenzene	Less Than 0.13	Micrograms per Liter
Methyl Acetate	Less Than 0.20	Micrograms per Liter
Methyl tert-butyl ether	Less Than 0.12	Micrograms per Liter
Methylcyclohexane	Less Than 0.27	Micrograms per Liter
Methylene Chloride	Less Than 0.19	Micrograms per Liter
4-Methyl-2-Pentanone	Less Than 0.16	Micrograms per Liter
Naphthalene	Less Than 0.16	Micrograms per Liter
Styrene	Less Than 0.15	Micrograms per Liter
1,1,2,2-Tetrachloroethane	Less Than 0.20	Micrograms per Liter
Tetrachloroethene	Less Than 0.17	Micrograms per Liter
Toluene	Less Than 0.11	Micrograms per Liter
1,2,3-Trichlorobenzene	Less Than 0.25	Micrograms per Liter
1,2,4-Trichlorobenzene	Less Than 0.20	Micrograms per Liter
1,1,1-Trichloroethane	Less Than 0.21	Micrograms per Liter
1,1,2-Trichloroethane	Less Than 0.16	Micrograms per Liter
Trichloroethene	Less Than 0.12	Micrograms per Liter
Trichlorofluoromethane	Less Than 0.26	Micrograms per Liter
1,1,2-Trichlorotrifluoroethane	Less Than 0.24	Micrograms per Liter
Vinyl Chloride	Less Than 0.20	Micrograms per Liter
m and/or p-Xylene	Less Than 0.23	Micrograms per Liter
o-Xylene	Less Than 0.13	Micrograms per Liter

**United States Environmental Protection Agency  
Region 7  
11201 Renner Blvd  
Lenexa, KS 66219**

07/24/2018

**Results of Sample Analysis**

Sample: 7889-5

Project ID: MSA71M00

These are the results from the analysis of water sample number 7889-5. This sample was collected on 06/26/2018 at the location described as: SS-03. If you have any questions about these results, contact Megan Schuette at the above address or by calling 913-551-7630. Correspondence should refer to sample number 7889-5 for project: MSA71M00 - Community Laundromat site.

<b>Analysis/Analyte</b>	<b>Amount Found</b>	<b>Units</b>
<b><u>Volatile Organic Compounds (VOCs) in Water by Gas Chromatography and Mass Selective Detection (GC/MS) for Low Detection Limits</u></b>		
Acetone	Less Than 2.1	Micrograms per Liter
Benzene	Less Than 0.031	Micrograms per Liter
Bromodichloromethane	Less Than 0.16	Micrograms per Liter
Bromoform	Less Than 0.16	Micrograms per Liter
Bromomethane	Less Than 0.14	Micrograms per Liter
2-Butanone	Less Than 1.1	Micrograms per Liter
Carbon Disulfide	Less Than 0.21	Micrograms per Liter
Carbon Tetrachloride	Less Than 0.22	Micrograms per Liter
Chlorobenzene	Less Than 0.039	Micrograms per Liter
Chloroethane	Less Than 0.16	Micrograms per Liter
Chloroform	Less Than 0.13	Micrograms per Liter
Chloromethane	Less Than 0.16	Micrograms per Liter
Cyclohexane	Less Than 0.31	Micrograms per Liter
1,2-Dibromo-3-Chloropropane	Less Than 0.25	Micrograms per Liter
Dibromochloromethane	Less Than 0.10	Micrograms per Liter
1,2-Dibromoethane	Less Than 0.15	Micrograms per Liter
1,2-Dichlorobenzene	Less Than 0.11	Micrograms per Liter
1,3-Dichlorobenzene	Less Than 0.12	Micrograms per Liter
1,4-Dichlorobenzene	Less Than 0.11	Micrograms per Liter
Dichlorodifluoromethane	Less Than 0.23	Micrograms per Liter
1,1-Dichloroethane	Less Than 0.16	Micrograms per Liter
1,2-Dichloroethane	Less Than 0.13	Micrograms per Liter
1,1-Dichloroethene	Less Than 0.22	Micrograms per Liter
cis-1,2-Dichloroethene	Less Than 0.17	Micrograms per Liter

Sample: 7889-5  
Project ID: MSA71M00

Analysis/Analyte	Amount Found	Units
trans-1,2-Dichloroethene	Less Than 0.21	Micrograms per Liter
1,2-Dichloropropane	Less Than 0.10	Micrograms per Liter
cis-1,3-Dichloropropene	Less Than 0.038	Micrograms per Liter
trans-1,3-Dichloropropene	Less Than 0.12	Micrograms per Liter
Ethyl Benzene	Less Than 0.11	Micrograms per Liter
2-Hexanone	Less Than 1.7	Micrograms per Liter
Isopropylbenzene	Less Than 0.13	Micrograms per Liter
Methyl Acetate	Less Than 0.20	Micrograms per Liter
Methyl tert-butyl ether	Less Than 0.12	Micrograms per Liter
Methylcyclohexane	Less Than 0.27	Micrograms per Liter
Methylene Chloride	Less Than 0.19	Micrograms per Liter
4-Methyl-2-Pentanone	Less Than 0.16	Micrograms per Liter
Naphthalene	Less Than 0.16	Micrograms per Liter
Styrene	Less Than 0.15	Micrograms per Liter
1,1,2,2-Tetrachloroethane	Less Than 0.20	Micrograms per Liter
Tetrachloroethene	Less Than 0.17	Micrograms per Liter
Toluene	Less Than 0.11	Micrograms per Liter
1,2,3-Trichlorobenzene	Less Than 0.25	Micrograms per Liter
1,2,4-Trichlorobenzene	Less Than 0.20	Micrograms per Liter
1,1,1-Trichloroethane	Less Than 0.21	Micrograms per Liter
1,1,2-Trichloroethane	Less Than 0.16	Micrograms per Liter
Trichloroethene	Less Than 0.12	Micrograms per Liter
Trichlorofluoromethane	Less Than 0.26	Micrograms per Liter
1,1,2-Trichlorotrifluoroethane	Less Than 0.24	Micrograms per Liter
Vinyl Chloride	Less Than 0.20	Micrograms per Liter
m and/or p-Xylene	Less Than 0.23	Micrograms per Liter
o-Xylene	Less Than 0.13	Micrograms per Liter

**United States Environmental Protection Agency  
Region 7  
11201 Renner Blvd  
Lenexa, KS 66219**

07/24/2018

**Results of Sample Analysis**

Sample: 7889-6-FB  
Project ID: MSA71M00

These are the results from the analysis of water sample number 7889-6-FB. This sample was collected on 06/26/2018 at the location described as: LDL VOA Field Blank sample. If you have any questions about these results, contact Megan Schuette at the above address or by calling 913-551-7630. Correspondence should refer to sample number 7889-6-FB for project: MSA71M00 - Community Laundromat site.

<b>Analysis/Analyte</b>	<b>Amount Found</b>	<b>Units</b>
<b><u>Volatile Organic Compounds (VOCs) in Water by Gas Chromatography and Mass Selective Detection (GC/MS) for Low Detection Limits</u></b>		
Acetone	Less Than 2.1	Micrograms per Liter
Benzene	Less Than 0.031	Micrograms per Liter
Bromodichloromethane	Less Than 0.16	Micrograms per Liter
Bromoform	Less Than 0.16	Micrograms per Liter
Bromomethane	Less Than 0.14	Micrograms per Liter
2-Butanone	Less Than 1.1	Micrograms per Liter
Carbon Disulfide	Less Than 0.21	Micrograms per Liter
Carbon Tetrachloride	Less Than 0.22	Micrograms per Liter
Chlorobenzene	Less Than 0.039	Micrograms per Liter
Chloroethane	Less Than 0.16	Micrograms per Liter
Chloroform	Approximately 0.60	Micrograms per Liter
Chloromethane	Less Than 0.16	Micrograms per Liter
Cyclohexane	Less Than 0.31	Micrograms per Liter
1,2-Dibromo-3-Chloropropane	Less Than 0.25	Micrograms per Liter
Dibromochloromethane	Less Than 0.10	Micrograms per Liter
1,2-Dibromoethane	Less Than 0.15	Micrograms per Liter
1,2-Dichlorobenzene	Less Than 0.11	Micrograms per Liter
1,3-Dichlorobenzene	Less Than 0.12	Micrograms per Liter
1,4-Dichlorobenzene	Less Than 0.11	Micrograms per Liter
Dichlorodifluoromethane	Less Than 0.23	Micrograms per Liter
1,1-Dichloroethane	Less Than 0.16	Micrograms per Liter
1,2-Dichloroethane	Less Than 0.13	Micrograms per Liter
1,1-Dichloroethene	Less Than 0.22	Micrograms per Liter

Sample: 7889-6-FB  
Project ID: MSA71M00

Analysis/Analyte	Amount Found	Units
cis-1,2-Dichloroethene	Less Than 0.17	Micrograms per Liter
trans-1,2-Dichloroethene	Less Than 0.21	Micrograms per Liter
1,2-Dichloropropane	Less Than 0.10	Micrograms per Liter
cis-1,3-Dichloropropene	Less Than 0.038	Micrograms per Liter
trans-1,3-Dichloropropene	Less Than 0.12	Micrograms per Liter
Ethyl Benzene	Less Than 0.11	Micrograms per Liter
2-Hexanone	Less Than 1.7	Micrograms per Liter
Isopropylbenzene	Less Than 0.13	Micrograms per Liter
Methyl Acetate	Less Than 0.20	Micrograms per Liter
Methyl tert-butyl ether	Less Than 0.12	Micrograms per Liter
Methylcyclohexane	Less Than 0.27	Micrograms per Liter
Methylene Chloride	Less Than 0.19	Micrograms per Liter
4-Methyl-2-Pentanone	Less Than 0.16	Micrograms per Liter
Naphthalene	Less Than 0.16	Micrograms per Liter
Styrene	Less Than 0.15	Micrograms per Liter
1,1,2,2-Tetrachloroethane	Less Than 0.20	Micrograms per Liter
Tetrachloroethene	Less Than 0.17	Micrograms per Liter
Toluene	Less Than 0.11	Micrograms per Liter
1,2,3-Trichlorobenzene	Less Than 0.25	Micrograms per Liter
1,2,4-Trichlorobenzene	Less Than 0.20	Micrograms per Liter
1,1,1-Trichloroethane	Less Than 0.21	Micrograms per Liter
1,1,2-Trichloroethane	Less Than 0.16	Micrograms per Liter
Trichloroethene	Less Than 0.12	Micrograms per Liter
Trichlorofluoromethane	Less Than 0.26	Micrograms per Liter
1,1,2-Trichlorotrifluoroethane	Less Than 0.24	Micrograms per Liter
Vinyl Chloride	Less Than 0.20	Micrograms per Liter
m and/or p-Xylene	Less Than 0.23	Micrograms per Liter
o-Xylene	Less Than 0.13	Micrograms per Liter



**APPENDIX D**  
**FIELD SHEETS**

**Sample Collection Field Sheet**  
**US EPA Region 7**  
**Kansas City, KS**

**ASR Number:** 7798    **Sample Number:** 1    **QC Code:** \_\_\_\_    **Matrix:** Water    **Tag ID:** 7798-1-\_\_

**Project ID:** MSA71M00    **Project Manager:** Megan Schuette  
**Project Desc:** Community Laundromat site  
**City:** Ava    **State:** Missouri  
**Program:** Superfund  
**Site Name:** COMMUNITY LAUNDROMAT - SITEWIDE    **Site ID:** A71M    **Site OU:** 00

**Location Desc:** Influent

**External Sample Number:** \_\_\_\_\_

**Expected Conc:** \_\_\_\_\_ (or Circle One: Low Medium High)    **Date**    **Time(24 hr)**  
**Latitude:** 36.960493    **Sample Collection: Start:** 3/13/18    09:50  
**Longitude:** 92.664951    **End:**   /  /        :  

**Laboratory Analyses:**

Container	Preservative	Holding Time	Analysis
3 - 40mL VOA vial	4 Deg C, HCL to pH<2	14 Days	1 VOCs In Water by GC/MS for Low Detection Limits

**Sample Comments:**

(N/A)

**Sample Collected By:** TT

# Sample Collection Field Sheet

US EPA Region 7

Kansas City, KS

ASR Number: 7798 Sample Number: 2 QC Code: \_\_\_ Matrix: Water Tag ID: 7798-2-\_\_\_

Project ID: MSA71M00  
Project Desc: Community Laundromat site  
City: Ava  
Program: Superfund  
Site Name: COMMUNITY LAUNDROMAT - SITEWIDE

Project Manager: Megan Schuette

State: Missouri

Site ID: A71M Site OU: 00

Location Desc:

Effluent

External Sample Number: \_\_\_\_\_

Expected Conc:

(or Circle One: Low Medium High)

Date

Time(24 hr)

Latitude: 36.960493

Sample Collection: Start:

3/13/18

09:53

Longitude: 92.624951

End: 1/1/

:\_

## Laboratory Analyses:

Container	Preservative	Holding Time	Analysis
3 - 40mL VOA vial	4 Deg C, HCL to pH<2	14 Days	1 VOCs in Water by GC/MS for Low Detection Limits

## Sample Comments:

(N/A)

Sample Collected By: TT

**Sample Collection Field Sheet**  
**US EPA Region 7**  
**Kansas City, KS**

**ASR Number:** 7798    **Sample Number:** 3    **QC Code:** \_\_\_    **Matrix:** Water    **Tag ID:** 7798-3-\_\_\_

**Project ID:** MSA71M00    **Project Manager:** Megan Schuette  
**Project Desc:** Community Laundromat site  
**City:** Ava    **State:** Missouri  
**Program:** Superfund  
**Site Name:** COMMUNITY LAUNDROMAT - SITEWIDE    **Site ID:** A71M    **Site OU:** 00

**Location Desc:** SS-02

**External Sample Number:** \_\_\_\_\_

**Expected Conc:** (or Circle One: Low Medium High)    **Date**    **Time(24 hr)**  
**Latitude:** 36.960215    **Sample Collection: Start:** 3/13/18    10:05  
**Longitude:** -92.465527    **End:** 1/1    —:—

**Laboratory Analyses:**

Container	Preservative	Holding Time	Analysis
3 - 40mL VOA vial	4 Deg C, HCL to pH<2	14 Days	1 VOCs in Water by GC/MS for Low Detection Limits

**Sample Comments:**

(N/A) Triple volume collected for MS/MSD analysis

**Sample Collected By:** TT

**Sample Collection Field Sheet**  
US EPA Region 7  
Kansas City, KS

ASR Number: 7798    Sample Number: 4    QC Code: \_\_\_\_    Matrix: Water    Tag ID: 7798-4-\_\_\_\_

Project ID: MSA71M00    Project Manager: Megan Schuette  
Project Desc: Community Laundromat site  
City: Ava    State: Missouri  
Program: Superfund  
Site Name: COMMUNITY LAUNDROMAT - SITEWIDE    Site ID: A71M    Site OU: 00

Location Desc: SS-Ø1

External Sample Number: \_\_\_\_\_

Expected Conc: (or Circle One: Low Medium High)    Date    Time(24 hr)  
Latitude: 36.960959    Sample Collection: Start: 3/13/18    10:15  
Longitude: -92.665578    End:   /  /        :  

**Laboratory Analyses:**

Container	Preservative	Holding Time	Analysis
3 - 40mL VOA vial	4 Deg C, HCL to pH<2	14 Days	1 VOCs In Water by GC/MS for Low Detection Limits

**Sample Comments:**

(N/A)

Sample Collected By: TT

**Sample Collection Field Sheet**  
**US EPA Region 7**  
**Kansas City, KS**

**ASR Number:** 7798    **Sample Number:** 5    **QC Code:** \_\_\_\_    **Matrix:** Water    **Tag ID:** 7798-5-\_\_\_\_

**Project ID:** MSA71M00    **Project Manager:** Megan Schuette  
**Project Desc:** Community Laundromat site  
**City:** Ava    **State:** Missouri  
**Program:** Superfund  
**Site Name:** COMMUNITY LAUNDROMAT - SITEWIDE    **Site ID:** A71M    **Site OU:** 00

**Location Desc:** SS-03

**External Sample Number:** \_\_\_\_\_

**Expected Conc:** (or Circle One: Low Medium High)    **Date**    **Time(24 hr)**

**Latitude:** 36.953724    **Sample Collection: Start:** 3/13/18    10:35  
**Longitude:** 92.670160    **End:** 1/1/    ::

**Laboratory Analyses:**

Container	Preservative	Holding Time	Analysis
3 - 40mL VOA vial	4 Deg C, HCL to pH<2	14 Days	1 VOCs In Water by GC/MS for Low Detection Limits

**Sample Comments:**

(N/A)

**Sample Collected By:** TT



**Sample Collection Field Sheet**  
US EPA Region 7  
Kansas City, KS

ASR Number: 7798    Sample Number: 6

QC Code: FB    Matrix: Water    Tag ID: 7798-6-FB

Project ID: MSA71M00

Project Manager: Megan Schuette

Project Desc: Community Laundromat site

City: Ava

State: Missouri

Program: Superfund

Site Name: COMMUNITY LAUNDROMAT - SITEWIDE

Site ID: A71M    Site OU: 00

Location Desc: Field Blank

External Sample Number: \_\_\_\_\_

Expected Conc: (or Circle One: Low Medium High)

Date

Time(24 hr)

Latitude: \_\_\_\_\_

Sample Collection: Start:

3/13/18

10:00

Longitude: \_\_\_\_\_

End:   /  /  

  :  

**Laboratory Analyses:**

Container	Preservative	Holding Time	Analysis
3 - 40mL VOA vial	4 Deg C, HCL to pH<2	14 Days	1 VOCs in Water by GC/MS for Low Detection Limits

**Sample Comments:**

(N/A)

Field blank collected from EPA-prepared  
DI water

Sample Collected By: TT

# Sample Collection Field Sheet

US EPA Region 7

Kansas City, KS

ASR Number: 7889 Sample Number: 1 QC Code: \_\_ Matrix: Water Tag ID: 7889-1-\_\_

Project ID: MSA71MDD

Project Manager: Megan Schuele

Project Desc: Community Laundromat site

City: Ava

State: Missouri

Program: Superfund

Site Name: COMMUNITY LAUNDROMAT - SITEWIDE

Site ID: A71M Site OU: 00

Location Desc: Effluent

External Sample Number: \_\_\_\_\_

Expected Conc: (or Circle One: Low Medium High)

Date

Time(24 hr)

Latitude: 36.70133

Sample Collection: Start: 6/21/18

04:40

Longitude: -92.66451

End: 4:5

## Laboratory Analyses:

Container	Preservative	Holding Time	Analysis
3 - 40ml VOA vial	4 Deg C, HCL to pH < 2	14 Days	1 VOCs in Water by GC/MS for Low Detection Limits

Sample Comments:

(N/A)

Sample Collected By: TT

# Sample Collection Field Sheet

US EPA Region 7  
Kansas City, KS

ASR Number: 7889 Sample Number: 2 QC Code: Matrix: Water Tag ID: 7889-2-

Project ID: MSA71MDD Project Manager: Megan Schuette  
Project Desc: Community Laundromat site  
City: Ava State: Missouri  
Program: Superfund  
Site Name: COMMUNITY LAUNDROMAT -- SITEWIDE Site ID: A71M Site OU: 00

Location Desc:

Influent

External Sample Number:

Expected Conc:

(or Circle One: Low Medium High)

Date

Time(24 hr)

Latitude: 36.96043

Sample Collection: Start:

6/26/18

09:45

Longitude: -92.66451

End: 7/7

## Laboratory Analyses:

Container	Preservative	Holding Time	Analysis
3- 40ml VOA vial	4 Deg. C. HCL to pH < 2	14 Days	L.VOCs in Water by GC/MS for Low Detection Levels

Sample Comments:

(N/A)

Sample Collected By: JT

# Sample Collection Field Sheet

US EPA Region 7  
Kansas City, KS

ASR Number: 7889 Sample Number: 3 QC Code: Matrix: Water Tag ID: 7889-3-

Project ID: MSA71MDD Project Manager: Megan Schuetze  
Project Desc: Community Laundromat site  
City: Ava State: Missouri  
Program: Superfund  
Site Name: COMMUNITY LAUNDROMAT - SITEWIDE Site ID: A71M Site OU: 00

Location Desc:

External Sample Number:

Expected Conc: (or Circle One) ☒ Low ☐ Medium ☐ High Date Time(24 hr)

Latitude:

Sample Collection: Start:

Longitude:

End:

## Laboratory Analyses:

Container	Preservative	Holding Time	Analysis
3 - 20mL VOCs vials	4 Drog. HCL to pH < 2	14 Days	11 VOCs in Water by GC/MS for Low Detection Limits

Sample Comments:

(N/A)

Sample Collected By: JT

**Sample Collection Field Sheet**  
**US EPA Region 7**  
**Kansas City, KS**

**ASR Number:** 7889    **Sample Number:** 4    **QC Code:** \_\_\_\_    **Matrix:** Water    **Tag ID:** 7889-4-\_\_

**Project ID:** MSA71M00    **Project Manager:** Megan Schaefer  
**Project Desc:** Community Laundromat site  
**City:** Ava    **State:** Missouri  
**Program:** Superfund  
**Site Name:** COMMUNITY LAUNDROMAT - SITEWIDE    **Site ID:** A71M    **Site OU:** 00

**LOCATION Desc:** 55-41

**External Sample Number:** \_\_\_\_\_

**Expected Conc:** (or Circle One: Low Medium High)    **Date**    **Time(24 hr)**

**Latitude:** 31° 9' 09.37"

**Sample Collection:** Start: 6/24/18    10:00

**Longitude:** 92° 44' 55.78"

**End:** 11:00    11:00

**Laboratory Analyses:**

Container	Preservative	Holding Time	Analysis
3 - 40mL VOCs vials	4 Dug E. HCL to pH < 2	14 Days	1 VOCs in Water by GC/MS for Low Detection Limits

**Sample Comments:**

(N/A)

**Sample Collected By:** TT



Sample Collection Field Sheet  
US EPA Region 7  
Kansas City, KS

ASR Number: 7889 Sample Number: 5 QC Code: Matrix: Water Tag ID: 7889-5-

Project ID: MSA71M00 Project Manager: Megan Schuette  
Project Desc: Community Laundromat site  
City: Ava State: Missouri  
Program: Superfund  
Site Name: COMMUNITY LAUNDROMAT - SITEWIDE Site ID: A71M Site OU: 00

Location Desc: SS-03

External Sample Number:

Expected Conc: (or Circle One: Low Medium High) Date Time (24 hr)

Latitude: 36.553224

Sample Collection: Start: 6/26/18 10:15

Longitude: 92.670160

End: / / : :

Laboratory Analyses:

Container	Preservative	Holding Time	Analysis
3 - 40mL VOA vial	4 Deg C, HCL to pH<2	14 Days	1 VOCs in Water by GC/MS for Low Detection Limits

Sample Comments:

(N/A)

Double volume collected  
for MS/MSD analysis.  
(collector error in not  
collecting triple volume)

Sample Collected By: TT

**Sample Collection Field Sheet**  
**US EPA Region 7**  
**Kansas City, KS**

**ASR Number:** 7889    **Sample Number:** 6    **QC Code:** FB    **Matrix:** Water    **Tag ID:** 7889-6-FB

**Project ID:** MSA71M00    **Project Manager:** Megan Schuette  
**Project Desc:** Community Laundromat site  
**City:** Ava    **State:** Missouri  
**Program:** Superfund  
**Site Name:** COMMUNITY LAUNDROMAT - SITEWIDE    **Site ID:** A71M    **Site OU:** 00

**Location Desc:** LDL VOA Field Blank sample

**External Sample Number:** \_\_\_\_\_

**Expected Conc:** (or Circle One: Low Medium High)    **Date**    **Time(24 hr)**

**Latitude:** \_\_\_\_\_

**Sample Collection Start:** \_\_\_\_\_

**Longitude:** \_\_\_\_\_

**End:** \_\_\_\_\_

**Laboratory Analyses:**

Container	Preservative	Holding Time	Analysis
3 - 40mL VOA vial	4 Drop L. HCL to pH < 2	14 Days	1. VOCs in Water by GC/MS for Low Detection Limits

**Sample Comments:**

Prepared by field sampler

Field Blank collected from EPA-prepared  
DI water

**Sample Collected By:** TT